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Sultan Mehmed II, the Conqueror

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HISTORY
OF
GREECE
FROM
THE EARLIEST TIMES
TO ITS
FINAL SUBJECTION TO ROME.

*PUBLISHED UNDER THE SUPERINTENDENCE OF THE SOCIETY
FOR THE DIFFUSION OF USEFUL KNOWLEDGE.*

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ERRATA.

- P. 5, col. 2, l. 8. *For Træzen, read Trœzen.*
P. 19, col. 2, l. 14. *For Themsothetæ, read Thesmothetæ.*
P. 33, col. 2, l. 36. *For Sect. III., read Sect. II.*
P. 146, col. 1, l. 11. *For on the western branch, read on the shore near the western branch.*
Ibid. l. 26. *For the deposits of the river, which have already in great measure choked it up, read the changes of the coast, and the constant gathering of shoals.*
P. 155, col. 1, l. 13. *For passed into Italy, taken refuge in a temple in Calabria, read taken refuge in Calauria, an island sacred to Neptune, near the port of Træzen.*
P. 160, col. 2, l. 51. *For smallest, read smaller.*
P. 163, col. 2, l. 40. *For Samian war, read Lamian war.*
P. 170, col. 2, l. 19. *For Mesupontum, read Metapontum.*
P. 218. In the heading of Chapter XIV., *for the Roman conquest of Macedonia, read the submission of the Ætolians to Rome.*
P. 225, col. 2, l. 11. *For undoubtedly, read undonbtngly.*
P. 226, col. 2, l. 33. *For recommended, read allared.*
P. 251, col. 1, note. *For for Galatia, read from Galatia.*

G R E E C E.

CHAPTER I.

Of Greece before the Trojan War.

GREECE is a country included between the thirty-sixth and forty-first degrees of northern latitude, and surrounded by seas, except upon the north, where it borders on Epirus and Macedonia. These provinces were anciently inhabited by a people of kindred origin and language, similar manners, and similar religion; but the Greeks did not consider them as forming a part of their own body, principally in consequence of their less advanced civilization, and the incongruity of their political order, they having retained the rude monarchy of early ages, while Greece was parcelled into small republics. What is known of their history will, however, in great measure, be included in that of Greece. The most northern province of Greece was Thessaly, an extensive vale, of singular fertility, surrounded on every side by the lofty ridges of Olympus, Ossa, Pelion, Ceta, and Pindus. The other provinces of continental Greece were Acarnania and Ætolia, on the western coast; Doris, inland, and Phocis principally so, with a scanty strip of coast on the Corinthian Gulf; eastern and western Locris, the one on the Corinthian Gulf, the other on the Euripus. These are rugged territories, intersected with numerous branches from Pindus and Ceta, and their inhabitants were generally behind the rest of Greece in civilization, wealth, and power. Next came Bœotia, a rich vale, abounding in lakes and streams, stretching across from the Corinthian Gulf to the Euripus, and in other parts inclosed by mountains, by Parnassus and Helicon on the side of Phocis, Cithæron and Parnes on that of Attica. Last is Attica, a rocky province of triangular form, bounded on the north by Bœotia, on the other sides by the Ægean Sea and the Saronic Gulf, which lies between it and the peninsula of Peloponnesus. The island of Eubœa extends from near the coast of Thessaly to that of Attica, and is divided from the main land by the narrow channel called Euripus. The great mountain chain of Greece is continued through the isthmus of Corinth into Peloponnesus, (now called the Morea,) and

there expands itself into the cluster of mountains which forms Arcadia, the central province of the peninsula; and hence go branches towards the sea, which divide the maritime territory into the provinces of Achaia, Argolis, Laconia, Messenia, and Eleia. But we shall afterwards speak of them more particularly. The first inhabitants of all these regions appear to have been a people called Pelasgians, of whose origin but little is known, though their tribes are believed to have settled extensively both in Europe and in Asia. The name Hellenes, which afterwards was adopted as the general denomination of those whom we, from the Latin, call Greeks, was originally that of a small people in the north of Thessaly, which grew early powerful, and became the origin of many leading Grecian states. Whether the original Hellenes were a Pelasgian tribe, or a tribe of a different though kindred stock, is a question admitting much discussion. The reader may find it ably treated in the Roman History of Niebuhr, who decidedly condemns the supposition that the Hellenes were Pelasgian. But of those comprised under the name of Hellenes, or Greeks, after it had become the distinguishing appellation of a great nation, at least half were Pelasgians by origin, and perhaps considerably more; nor can we affirm that Greece owed more of its manners, language*, or civilization to the Hellenic than to the Pelasgic portion of its people. Afterwards the Grecian nation became divided into two races, the Ionian and Æolian; and of the latter, a portion afterwards, under the name of the Dorians, attaining great power and importance, that name, as

* Much stress has been laid on the circumstance that Greek writers commonly speak of the Pelasgic language as barbarous. But the Greeks undoubtedly, whether Pelasgians or not, early separated themselves from the less improved Pelasgic tribes. Supposing the basis of the language entirely Pelasgic, the admixture of Egyptian and Phœnician words in the Greek, together with the alterations produced in both by time and change of manners, may very well have occasioned the Greek language to differ as much from that of the other Pelasgians, as the modern English from the Dutch, which, like it, is derived from the old Anglo-Saxon. If, however, the Hellenes were a separate race, it is no less possible that their language may have prevailed; or again, that the Greek language may have been a compound of the two, in which it is wholly uncertain which predominated.

applied to them, superseded the Æolian, and this being still retained by the other branches of the same family, the great divisions of the Greeks were three, Ionians, Æolians, and Dorians.

The earliest traditions of Greece carry back the mind to a period of poverty and ignorance scarcely exceeded by the rudest savages now known. They tell of the institution of marriage, the first planting of the vine, the first sowing of corn; though, in those eastern countries, from which Greece, like the rest of the world, derived its population, all these were known long before its first inhabitants quitted their original abodes. This is not a thing to be wondered at. The earliest settlers of every country, unless sent out as a colony by public authority, or compelled to emigrate in numerous bodies by political commotions, are commonly stragglers from the mass of persons without property or regular employment, who abound in every fully-peopled district; men of restless and irregular habits, who, when placed in forest tracts, abounding with game, but requiring great labour to fit them for cultivation, and cut off from intercourse with more frequented regions, are likely to lose the civilization of their birth-place, and, neglecting all the arts of settled life, to become mere hunters. This is the case, in some degree, in the back settlements of America, though the rapid spread of civilization, and the easier intercourse with cultivated districts, have much curtailed the operation of these causes. In Greece, divided from the then inhabited world by seas and mountains, the barbarising process went so far, that husbandry seems to have been forgotten, and men were obliged, if their hunting failed, to feed on mast and berries, or other spontaneous products of the earth. In such a state, an extensive tract would support but few, while those who found themselves in want of subsistence, having no immoveable property, no laborious improvements to attach them to the spot, would readily seek a place where men were scarcer, and game more plentiful. Thus inhabitants would be thinly spread over the country with great rapidity, and, till the land was pretty generally occupied, they would scarcely feel the want of more productive employment. But, when this time came, the difficulty of subsistence must have been great. In a nation of hunters, the supply of food, instead of increasing, would decline with the increasing number of persons to be

fed. Cattle might be bred, to some extent, in the rich valleys of Bœotia and Thessaly; but that could be but a limited resource in a country so rugged as most of Greece. Each tribe, on finding its own hunting-ground and pasturage insufficient, would endeavour to increase it by encroachment on its neighbours; and war would therefore be continual, occasioned, not by ambition, as elsewhere, but by need.

In this state of hopeless barbarism was Greece when visited by those Egyptian and Phœnician colonies which gave it the first rudiments of civilization. The Egyptian Cærops, coming to Attica, found the rude natives without union or regular government, infested, on their northern border, by the Bœotians, their only neighbours, and from the sea by the Carians, a piratical people widely established in the islands of the Ægean, and on the south-western coast of Asia Minor, whose object, probably, was the procuring of slaves, since the poverty of Attica could offer no other temptation to the plunderer. Having occupied the rock which afterwards became the Acropolis, or citadel of Athens, Cærops prevailed on the inhabitants of the country to submit to him as their chief. He divided the province into twelve districts, and established a principal town in each, where the affairs of the district were to be transacted; instituted marriage, and appointed laws for the administration of justice; and arranged a system of united defence against the Bœotians. The strong hold in which he had fixed his residence was peculiarly consecrated to the Egyptian goddess Neith, whose name was changed by the Greeks into Athene, and who was worshipped by the Romans under that of Minerva. Around this rock arose a city, first named, from its founder, Cæropia, but afterwards Athenæ, from the goddess, or, as we have corrupted it, Athens.

About the same time we may probably place the founding of Sicily and Argos, though both claimed a higher antiquity. Of the early history of Sicily little is known, and that little is not important. Of the settlement of Argos two traditions are preserved; the one ascribing it to Inachus the son of Ocean; the other to Phoroneus son of Inachus. By those who hold the latter opinion, Inachus is mostly considered as the name not of a man but of a river. Both relations seem to mark out an unknown man from beyond the sea, who landed in the river

which received its name from him, or from which the other tradition supposes him sprung. The founder of Argos appears to have been a wanderer from the East, and probably from Egypt, who, by the influence of superior knowledge, having induced the rude Pelasgians to obey him, gave them some degree of regular government and a more settled mode of life. At an after-time we find the Argians governed by Gelanor, a prince apparently of Pelasgian blood, when Danaus arrived with a fresh colony from Egypt. The Argians were often distressed for want of water; he first taught them to dig wells; and, by this and similar services, he won such favour that he was encouraged to claim the kingdom. He declared himself descended from Io, an Argian princess of the line of Inachus, and one of the most singular personages in Grecian fable. It is said that Jupiter, being enamoured of her, to deceive the jealousy of Juno, transformed her into a cow; that in this form she travelled into Egypt, and there became a goddess. Herodotus, the earliest and one of the most trustworthy of Grecian historians whose works remain, explains the fable by supposing that she was enticed on ship board and carried away by some Phœnician merchants, to whom women were very profitable articles of trade. The popularity of Danaus made up for the weakness of his claim; he was chosen king, and such was his power and fame that, long after his death, the southern Greeks still went by the name of Danaans.

An adventurer from Phrygia in Asia Minor founded a dynasty which was destined to succeed that of Danaus, and to rule more widely. This adventurer was Pelops, who attained such influence, chiefly by the riches which he brought from Asia, that the southern peninsula was ever after called by his name, (Peloponnesus, the island of Pelops.) He obtained Eleia by his marriage with Hippodameia, the daughter of Enomaus, king of Pisa in that province: and one of his daughters, being given in marriage to the king of Argos and the neighbouring city Mycenæ, was the mother of Eurystheus, the last prince of the Danaan race. He, leading an army against the Athenians because they protected the children of his enemy Hercules, left his mother's brother Atreus regent. Eurystheus fell in battle, and Atreus, being powerful and popular, was chosen to succeed him by the Myce-

næans, the more readily because they wanted an able leader to protect them against the sons of Hercules. He was succeeded by his son Agamemnon, whose power extended over all Peloponnesus and many of the Grecian islands. The seat of his royalty was Mycenæ, to which the supremacy had been transferred from Argos by Perseus, the great grandfather of Eurystheus. But it is time to return to an earlier period, and to relate the second great Oriental colonisation of Greece.

About thirty years after the foundation of Athens, some extensive troubles took place in Palestine, which caused the emigration of numerous bodies of Phœnicians. Newton's conjecture seems highly probable, that this took place in consequence of the taking of Sidon by the Philistines, united with the Edomites, who were expelled from their homes by the conquests of David. The fugitives settled in Phrygia, in the islands of Rhodes, Crete, and Eubœa, and in several parts of Greece, under various names, as Curetes, Corybantes, Idæi Dactyli, and others; they brought with them letters, music, the art of working in metals, and a more accurate method of computing time than had hitherto been adopted; and they first taught those mystical ceremonies which formed a very remarkable part of the religion of Greece. A division of them under the name of Cadmeians occupied Bœotia, and either driving out the natives, or uniting with them, founded there the celebrated city of Thebes. Cadmus, the leader of this colony, has the fame of introducing letters into Greece; but the merit of this, and all the improvements which took place at the same period, belongs to him only in common with the other chiefs of the Curetes. One of these Phœnician settlements deserves particular attention, both from its early eminence and power, and from its offering the most ancient specimen recorded of a political system, arranged with great art and forethought, and calculated to combine the liberty of the citizens with regular government. The institutions which Minos established in Crete at a time of general anarchy and barbarism, continued to be admired by political speculators in the most polished ages of Greece, and became the model by which Lycurgus, at a subsequent period, formed the constitution of Sparta, which, with all its vices, is unrivalled as an instance of sagacity, in adapting laws to certain objects.

Like most early legislators, Minos endeavoured to heighten the authority of his institutions by laying claim to divine inspiration. He called himself the son of Zeus, or Jupiter, the principal deity of the Greeks; and having retired into a cave, on coming out he declared that he had received from his father the laws which he promulgated, and which formed the basis of the Cretan commonwealth. The leading principles of his legislation were the equality of the citizens, the community of the lands, and the subjection of the daily life of individuals to minute regulation by law. The education of the children was appointed, and was principally directed to make them soldiers. They were made to sit on the ground, to wear the same coarse garment in winter and summer, to wait on the tables of the men, and frequently to exercise their courage in combats among themselves. The elder boys were divided into troops (*agelæ*); of each of which one of themselves was chosen as chief, while a superintendent was appointed from the men, to lead out the troop to the chase and to exercise, and to correct the disorderly. These troops were maintained at the public expense, and on certain days were accustomed to engage with each other in battle, to the sound of music, fighting with their fists, and even with weapons. On arriving at manhood, they were obliged to contract themselves in marriage, and at the same time they left the *agelæ* to enter into the clubs or messes of the men, where they lived in perfect equality on the produce of the land, which belonged to the state, and was cultivated for it by numerous slaves. Herein Greece saw nothing to disapprove. Ancient politicians considered slaves as absolutely necessary, and their happiness or misery as very unimportant. The object in view was to support the citizens in leisure and freedom; while the number and wretchedness of the servile class were never considered, unless so far as their discontent might endanger the tranquillity of the free. The powers of the Cretan government were concentrated in the council of elders, and in ten magistrates called *Cosmi*: and both these appointments were held for life. The assembly of the people was only allowed a silent vote on such propositions as were submitted to it by the elderhood and *Cosmi*. The military command was at first in the king, but on the abolition of royalty was entrusted to the *Cosmi*.

While Crete was flourishing under a government singularly regular, though avowedly calculated to train up the citizens in the habits of a well disciplined army, rather than in those of a peaceful commonwealth, the continent of Greece was yet in a state of great disorder. The Cadmeians and Curetes had brought to their settlements in Boeotia, Ætolia, and Eubœa, much useful knowledge, and a more settled mode of life: and nearly at the same time, corn and the art of tillage were made known to Attica by Ceres. She is generally supposed to have been a Sicilian woman: but, from the resemblance of the religious mysteries she introduced at Eleusis to those, which were elsewhere celebrated by the Phœnicians in honour of the same goddess, under many names, as Rhea, Cybele, and others, it is probable that the benefits attributed to her were due to the Phœnicians, and that Ceres was either a priestess of the Phœnician goddess, or perhaps a name of the goddess herself. But improvement was retarded by continual rapine, war, and emigration. If a tribe was attacked by a stronger enemy, they all quitted their homes with little reluctance, to seek a new abode in the seats of any whom they in their turn might be able to master. There was no traffic, no safe intercourse by land or sea: the towns were unfortified, and no one thought of providing more than would suffice for his present wants, being uncertain when he might be pillaged or driven from his dwelling. Having nothing valuable, and expecting any where to get such necessary sustenance as might serve them from day to day, they were easily induced to change their abodes; and hence there was little increase in the greatness of cities or the wealth of their inhabitants. But the richest soils were always the most subject to these changes; for the goodness of the land, by increasing the riches, and thereby the power, of some particular men, both caused seditions within the communities, and tempted strangers to attack them. Besides, with the growth of navigation, the people on the coast, and in the islands, both Greeks and others, betook themselves to piracy, sending out ships under the command of their most powerful men, much like the Northmen who ravaged England in the reigns of Alfred and some of his successors. This was then deemed honourable, as robbery has at some time been held in every barbarous nation; but it is a singular fact, that this feeling lasted

not only to the time of Homer, but in some of the less civilised parts of the Grecian continent, even to that of Thucydides. These evils were checked by the power of Minos, whose wise institutions, together with the happy situation of his island, had made him the greatest potentate of Greece. He first built a navy for the protection of commerce and the enlargement of his empire; conquered many of the Cyclades, (islands in the *Ægean*), and cleared the sea, as far as was practicable, of pirates. In the period of tranquillity thus afforded, many cities increased in wealth and power so far as to surround themselves with walls, and to feel safe in their own strength; and the towns which were subsequently founded were not, as of old, placed far away from the sea for security from the sudden incursions of pirates, but were usually fixed upon the coast for the convenience of trade, and made defensible by fortifications.

From a very early period, when the rest of Greece was in the troubled state just described, Attica alone was comparatively tranquil, a blessing due to the apparent disadvantages of its situation. It is, like most of Greece, a tract inclosed and intersected in every direction by mountain ridges; but it is one in which the productive valleys and plains bear even a smaller proportion than usual, to the rugged and sterile barriers which surround them. The soil is thin and light, highly favourable to the growth of figs and olives, but offering a very moderate return to the labour of tillage, and still less suited to the pasturage of cattle, the chief riches of that age. Hence, since no one coveted their territory, the inhabitants enjoyed it undisturbed; and the population not having been changed within the limits of tradition, the Athenians in after-times were able to boast their favourite title of *Autochthones*, or children of the soil. The peace and security of Athens made it a refuge to wealthy and powerful men, who were driven out from other places by war or sedition; and its population was thus so far increased that it early relieved itself by sending colonies to Asia. Its prosperity was aided by an early reform in its institutions. Under the successors of Cecrops, the twelve cities into which he had assembled the Atticans, retained each its separate magistrates and *prytaneum* (town hall): and though they owned a superiority in the king of Athens, they never consulted him unless in case of danger, but were governed independently

by their several councils, and sometimes even made war on each other. The division of Attica did not cease, till Theseus coming to the throne completely remodelled its political state.

Theseus was the son of *Ægeus* king of Athens, by *Æthra* the daughter of *Pitheus*, king of *Træzen*, a small town of *Peloponnesus*, opposite to Attica. He was bred at the court of his father-in-law, and when grown to manhood was sent by his mother to Athens. Though advised to go by sea as shorter and safer, piracy being about that time suppressed by Minos, he chose the more hazardous journey by land. "That age," says *Plutarch*, "produced men of uncommon strength, dexterity, and swiftness, who used these natural gifts to no good purpose, but placed their enjoyment in outrage and cruelty, esteeming the praises of equity, fair dealing, and benevolence, to proceed from faintness of heart and the dread of injury, and little to become the powerful and bold." The fame of *Hercules* was principally founded on the destruction of such marauders, and Theseus aspired to a similar renown. He took his way through the isthmus of *Corinth*, a tract most favourable to plunderers, abounding with mountain fastnesses, and the only passage between *Peloponnesus* and Northern Greece. All who attacked him were slain or defeated, and he arrived at Athens, having delivered the country from some of its greatest scourges. He was there acknowledged by *Ægeus*, and welcomed by the people, prepossessed in his favour by the fame of his exploits. Some commotions were raised by the nephews of *Ægeus*, who had expected to succeed him; but these were defeated and the faction quelled.

The Athenians, in a war with Minos, king of *Crete*, had purchased peace by a yearly tribute of seven youths and seven virgins as slaves. The burden was borne with much uneasiness. The poets relate that the victims were thrown to be devoured by the *Minotaur*, a monster half bull, half man: and possibly such a report may have been current at the time among the ignorant many. The captives had hitherto been drawn by lot from the people: Theseus offered himself as one. The history of his going to *Crete* is much disguised by fable, but it would seem that Minos received him honourably, remitted the tribute, and finally gave him his daughter *Ariadne* in marriage. She returned with him, and it is fabled that he deserted her on the

island of *Naxos*. Probably she sickened in the voyage, and died on the island.

The success and patriotic boldness of his enterprise raised Theseus to the highest popularity. Sacrifices and processions were instituted to commemorate it, and the ship in which he returned was yearly sent to the sacred island of *Delos*, carrying a mission to perform thanksgiving to *Apollo*. About this time, on the death of *Ægeus*, Theseus succeeded unopposed; and possessing a degree of influence which enabled him to effect a great political change, he went through the several towns, and persuaded the inhabitants to give up their separate councils and magistracies, and submit to a common jurisdiction. Every man was to retain his dwelling and his property as before, but justice was to be administered and all public affairs transacted at *Athens*. The mass of the people came into his measures; and to subdue the reluctance of the powerful, who were loth to resign the importance accruing from the local magistracies, he gave up much of his own authority, reserving only the command of the army, and the care of watching over the execution of the laws. Opposition was silenced by his liberality, together with the fear of his power, ability, and courage; and the union of *Attica* was effected by him and made lasting. To bind it closer, without disturbing the religious observances of the several towns, he instituted a common festival in honour of *Minerva*, which was called the feast of union, and the feast of all the Athenians (*Panathenæa*.) To his wise measures *Athens* owes its early prosperity and civilisation, its subsequent eminence in all the arts of peace and war, and its importance in history, so utterly disproportionate to the extent and value of its territory. The quiet and good order produced by the union in *Attica* are proved by the fact that the Athenians were the first in Greece who left off the habitual carrying of arms, and adopted a peaceful garb.

Even in these early ages the religion of Greece, though somewhat less complex than in after-times, was an intricate tissue of fable and superstition. It seems to have been chiefly derived from Egypt, but partly also from Phœnicia, and partly from the old belief of the Pelasgians. The latter worshipped nameless gods, which makes it probable that their ancestors had quitted the regions of *Asia*, that formed the cradle of mankind, before the commencement of polytheism

(the worship of many gods;) thought, in the barbarism into which they fell, they could not long raise their minds to the contemplation of the one supreme and invisible God; and therefore began to adore the inferior spirits, whom they supposed to be the immediate movers of nature. But when they met with strangers far their superiors in knowledge and intelligence, who professed to declare the names, order, different powers and mutual relations of the gods, the means of learning their will, and of averting their anger; they naturally received with joyful acquiescence a communication which gave them definite notions where all seemed vague, dark, and uncertain. Such instructors they first found in the Egyptian settlers, and accordingly nearly all the names of Grecian gods were Egyptian. The Phœnicians afterwards settled more extensively; but their religion so much resembled that of Egypt, that it is difficult to discover from which nation many tenets and practices of Grecian worship were derived. In Egypt, a numerous hereditary priesthood were the sole depositaries of all religious and historical knowledge, and they chiefly studied to improve their ascendancy by practising on the ignorance and superstition of the people. For this end they veiled their doctrines and traditions under fables and allegories unintelligible to the many, and worshipped the Deity with different rites appropriate to all his different attributes, assigning him a separate name and symbol as considered under each: thus gratifying by their ritual the popular love of variety and splendour, and working powerfully on the imagination by dim glimpses of a hidden meaning in the mysterious celebrations. The multitude, as might be expected, soon came to consider these different names as belonging to so many independent deities; and the priests were not solicitous to undeceive them. Hence there arose in Egypt, and subsequently in Greece, a double religion, the one for the learned, the other for the ignorant. The latter acknowledged a plurality, and dealt in monstrous and frequently immoral fables, which have been reprobated by the wisest Greeks, as ascribing to the gods actions of which an ordinary man would be ashamed. The former was taught at the solemnities called *Orgies*, or *Mysteries*, at which those who were present were bound to secrecy as to what they saw, and were supposed

ever after to be invested with peculiar sanctity. Among the most noted of these in Greece were the orgies of Ceres at Eleusis. Their general object seems to have been to teach the unity of the highest God, and to communicate such fragments as had been retained of the primitive religion.

The spirit of mystery which prevailed in religion, extended itself also into philosophy; and the object of the earliest Grecian moralists was not so much to instruct the people, as to compose, for a narrow circle of scholars, a discipline which should raise them above the common level of mankind. Such were the instructions of Pythagoras, who imposed a long and arduous probation before a man could be admitted as his disciple; and many philosophers made a distinction between the doctrines which they publicly taught, (*exoterica*, or the doctrines for those without,) and those reserved for a few more favoured hearers (*esoterica*, or the doctrines for those within.) This is not wonderful, considering that Greek philosophy originated from Egypt, where it was inseparably united with theology, and was, like it, the exclusive patrimony of the priesthood. Orpheus, who lived before the Trojan war, the first noted teacher of wisdom to the Greeks, preserved the union; and instituted orgies, which were at once a religious solemnity and a course of philosophical instruction. Pythagoras, in a later age, could not give his discipline the character of sacredness; but yet so closely did the purifying ceremonies enjoined by him, agree with the religious mysteries, that they are paralleled by Herodotus with the Orphic orgies, and those of Bacchus, both of which were sacred and derived from Egypt. Pythagoras, Plato, and many other eminent philosophers of Greece, travelled into Egypt, and it is probably to remnants of primitive tradition there picked up, that we owe the dim shadowings of some mysterious doctrines of Christian belief, which are occasionally found in heathen writers. The unity of the supreme Godhead, which was maintained by most of the wisest Greeks, is a truth too congenial with human reason to need any tradition to account for its existence; but there are other notions, which, far from being obvious, have been always the most difficult to be received, and these can be accounted for on no other supposition.

The popular religion of Greece in the age preceding the Trojan war, differed

little from that in after-times; except that its scattered fables had not been embodied, as was afterwards done by the early poets, Homer and Hesiod, whom Herodotus names as the fathers of Grecian mythology; and that hero-worship does not seem to have been practised. Mortals had indeed been deified, as Bacchus; but their mortality was put out of sight, and in the legends related of them, they are throughout considered as gods; whereas the heroes are, in all their actions, represented as men, till the history closes with their death and elevation to the rank of an inferior divinity. No sign of this practice is found in Homer or Hesiod; but it afterwards became so common, that every town had its particular heroes, and new ones were continually added to the list. The greater gods took their rise chiefly from Egypt: many other more fanciful inventions were of native growth, as Muses, Graces, nymphs of mountains, woods, and waters, Greece had never an order of priesthood. There were indeed priests of particular divinities, but when not engaged in their religious duties, there was seldom any thing to separate them from the rest of the community. In early times all sacred functions belonged to the king, excepting some rites of peculiar sanctity, which had priests specially appointed to perform them; and even when royalty was generally abolished, in many states the title was continued to the person who performed those religious offices which had belonged to the king.

Facility in crediting pretenders to a knowledge of the future, a weakness common to half civilised countries and half educated men, was very prevalent in Greece. Their predictions were of two kinds: in the one case drawn by rules from the state of the entrails in a sacrificed victim, from the flight of birds, the occurrence of thunder, and numberless accidents and natural appearances; in the other, by direct communication from deities supposed to be resident in certain spots. The first kind was so prevalent in Homer's time, that in his poem we scarcely find an action done, or plan proposed, which is not accompanied by some portent of its good or ill success. We hear little from him of local oracles, the consulting which was too troublesome and expensive to be practised except on important occasions. Many existed, though none had arrived at that commanding influence and celebrity, which was afterwards at-

tained by the oracle at Delphi, but which hardly could arise till the different states had come into more frequent mutual intercourse, and larger connexion in peace and war. The oldest oracle was at Dodona in Epirus, and was established by a woman stolen by some Phœnicians from the temple of Jupiter at Thebes, in Egypt. Other oracles arose in various places, but the greatest celebrity was gained by that of Apollo at Delphi in Phocis. Here was a cavern, whence came exhalations producing convulsions and temporary phrensy, which were supposed to be symptoms of divine inspiration. The mode of conducting the oracle was this: the person who received the supposed inspiration was a priestess exclusively devoted to that office, and called Pythia, from Pytho, the ancient name of the place. She being placed over the cavern, the words which fell from her in her delirium were arranged and connected by the attending priests, and an answer framed from them, till a late period always in verse. The interpreters thus could modify the answer at pleasure, and in doubtful cases they generally made it ambiguous, and such as at once to gratify the questioner, if powerful and liberal, and to avoid being convicted of falsehood. Hence, when many less prudently managed lost their credit, the Delphian oracle maintained its character for superior trust-worthiness, and, as we shall find in the subsequent history, continued for ages powerfully to influence the politics of Greece.

CHAPTER II.

Of Peloponnesus, from the Trojan War to the end of the second Messenian War.

PIRACY, as we have seen, in early times was a common, and was held an honourable practice among the people inhabiting the coasts and islands of the Ægean sea. The famous voyage of the Argonauts was nothing more than a piratical expedition to the eastern shores of the Euxine, remarkable for its unusual extent and boldness, and the number of men of distinction engaged in it, in which Jason, the commander, carried away with him Medea, the daughter of the Colchian king. A similar outrage, done to Greece in the next generation, was followed by wider mischiefs. Paris, the son of Priam, king of Troy, in the course of a marauding expedition,

being hospitably entertained at Sparta, by Menelaus, the brother of Agamemnon, ended his visit, with stealing Helen, the wife of his host. The kings of Mycenæ had long been commonly the leading potentates of Greece, and Agamemnon was more powerful than his greatest predecessors. Achaia and Argolis, with Corinth, belonged to the original dominion of Mycenæ; Agamemnon inherited Eleia from Pelops; Laconia, with most of Messenia, formed the kingdom of Menelaus; and what remained of Peloponnesus was governed by petty chiefs dependent on Mycenæ. Beyond the isthmus, Agamemnon had no authority, but his power was dreaded and his influence felt; and by his ascendancy, together with resentment of the aggression, with the love of war, and the hope of booty, all Greece was united for the overthrow of Troy. (B. C. 914.)* The combined fleet was assembled at Aulis in Boeotia, where it was so long detained by contrary winds, supposed to be occasioned by the anger of Diana, that Agamemnon is said to have been compelled by his army to sacrifice his daughter Iphigeneia to the goddess. This story wants the authority of Homer and Hesiod, but it is related by many very ancient writers, and is not without parallel in that age. Human sacrifices, as we know from scripture, were much used by the nations of Palestine, and hence they were carried by the Phœnicians into Greece, as into all the places where they settled; and though never there, as among the Canaanites, an ordinary rite, they were occasionally employed in great emergencies, and when the anger of some deity was believed to be unusually excited.

The people against which the voyage was directed, differed little from the Greeks in origin, habits, language, or civilisation. The extent and power of the Trojan kingdom were considerable, but not sufficiently so to keep the field against the united strength of Greece; and had the siege been prosecuted with vigour, it would probably have been short. But the resources of Greece being unequal to the maintenance of the army, it was obliged to support itself by plunder gathered from the neighbouring cities,

* The chronology of these early times is very uncertain. The dates here adopted are those of Newton, whose system, though far from being satisfactory, appears, on the whole, to tally better with the course of events than any other. We have not the means of attaining more than a very imperfect approximation to the truth. All the other systems, where they differ from Newton's, assign to each event a higher antiquity than he does.

and by cultivating the opposite Chersonese, or peninsula, from which it was separated by the Hellespont; and while much of its force was always thus employed, the remainder barely sufficed to keep the enemy within his walls. Thus the war was protracted through ten years, at the end of which, Troy was taken, and suffered all those miseries, and that destruction, which, to the disgrace of human nature, continues, even now, to be the usual fate of captured towns. Of the aggregate evil caused by the war, some conception may be formed from the statement, that, in different plundering expeditions, twelve towns were ruined by Achilles alone; the chiefs and soldiers mercilessly butchered, the women and children carried into bondage, and those of the women who were so unhappy as to please the eye of their conquerors, reduced to live in a miserable concubinage with the slaughterers of their kindred. This war is the subject of the noblest poem of antiquity, the *Iliad* of Homer; and the greatest moral merit of that poem is, that it does not gloss over the horrors of war, but gives such pictures as that just exhibited, broadly and plainly, without disguise or palliation. Yet this very poem stimulated Alexander to a wider career of devastation; so much less powerful is sympathy with suffering, than the desire of a spurious and malignant renown.

We have in the *Iliad*, and its sequel the *Odyssey*, an admirable picture of Grecian manners at this early period. The chief riches of the age were slaves and cattle, horses, arms, household utensils and furniture. The slaves were often taken in plundering expeditions, in which chiefs and princes thought not shame to be engaged: but however unjustly and violently obtained, their condition was better than in later times. They might be as liable to arbitrary chastisement as afterwards: but they were ordinarily treated more as members of the family, and some old and trusty servants would even be placed by their masters on a footing approaching to familiar friendship. Handicrafts and menial services could not be felt as degrading in an age when princes often performed them: as we find it related that Achilles cooked the dinner for the ambassadors who were sent by Agamemnon to visit him in his tent; Ulysses carved and ornamented the bedstead for his bridal chamber; and Nausicaa, daughter to the king of Phæacia (Coreyra or Corfu),

went to her father, when sitting in the council of his chiefs, to ask that she might go down to the river with her handmaids to wash the linen of the household. Hospitality was held a sacred duty; and so strictly was it observed, that when a stranger appeared at a banquet, it was usual not to ask his name till the feast were over, lest his welcome should be injured, if he proved to be a person at deadly feud with his entertainer. Hospitality, strong family affection, and cordiality in the relations existing between master and servant, are virtues belonging to a simple state of society: but with them the early Greeks had also the vices common to half-civilised nations. They were given to piracy and robbery; and their wars were often wantonly undertaken, and always cruelly conducted, little quarter being given, and all prisoners becoming slaves. Man's life was held so cheap, that half the most famous heroes of Greece were persons guilty of murder: and though these were generally obliged to quit their country by the fear of vengeance from the kindred of the slain, they were elsewhere treated less as criminals, than as men unfortunate, as well in their banishment as in its cause.

The Grecian chiefs returning from Troy found every thing changed during their absence. Governments had then but little of established law or permanent system; and the power of princes depending entirely on their personal influence and energy, when they and their bravest adherents were absent, the aged and infant members of their family, far from exercising any authority, were unable even to protect themselves from spoliation and outrage. During the ten years war, a new generation growing to manhood, had adopted leaders of its own, and the returning chiefs found their places occupied by strangers, frequently their private property usurped, and their families destitute and exposed to indignity. Struggles ensued, in which many princes were compelled to reim-bark their followers, and seek for settlements elsewhere, while others obliged their opponents to a similar migration. Ulysses, the king of the small island of Ithaca on the western coast of Greece, met with shipwrecks and various accidents on his return from Troy, which delayed his coming home for many years after that of the other chiefs. It was supposed in Ithaca that he had perished, and all the neighbouring chiefs came to

woo his wife Penelope, a paragon of beauty, virtue and discretion. Telemachus, the young son of the wanderer, and Laertes his aged father, could not resist the powerful intruders; and Penelope herself could not decidedly refuse to make her choice, though she contrived to delay it. At length Ulysses arrived, and stood unknown on the threshold of his father. He saw the suitors revelling in his halls, devouring his sheep and oxen, and wasting his substance in riot, insulting his family, and domineering over his servants and his people. In the disguise of a beggar he ministered to their amusement, endured their insolence, and partook of their churlish hospitality: but their measure was now full, and with the aid of Telemachus and two faithful servants he destroyed them. This story is the subject of the *Odyssey*: and though embellished, no doubt, by the fancy of the poet, we may be sure that it contains a groundwork of truth, and that whatever is added, tallies with the manners of the age. Agamemnon was murdered on his return by his wife Clytæmnestra and cousin Ægisthus, for whom she had conceived an adulterous passion; the conspirators were strong enough to possess themselves of the government, but some of the friends of Agamemnon escaped the slaughter, carrying with them his infant son Orestes. The character of Agamemnon appears to have been popular, and the wickedness of his assassins could not but be generally detested; and the prevalence of these sentiments enabled Orestes, on arriving at manhood, to recover the throne, when he put to death both Clytæmnestra and Ægisthus. It was the general belief that this tissue of horrors arose from the curse entailed by a crime of Pelops on his race, which, after occasioning deep guilt and misery in the intermediate generation, was consummated in a mother slain by her son for the murder of his father: a strong instance of a tendency universal in Greece to ascribe any remarkable crime or calamity less to the character of the immediate agents, than to the power of Destiny, urging them on actions they abhor, in vengeance for some former misdeed of themselves or their ancestors.

In the reign of Tisamenus the son of Orestes, a change took place in the ruling population through the greater part of Peloponnesus. Hercules, the most renowned of Grecian heroes, was

great grandson to Perseus king of Argos, the founder of Mycenæ. Some of his posterity were princes of Doris, a small and rugged tract in the mountains of Cæta and Parnassus; and here they never ceased to claim the royalty of Argos, from the time when it passed from the * Perseid line to that of Pelops. Twice they were repulsed from Peloponnesus; but the third attempt was more successful, when, eighty years after the Trojan war, (B. C. 824.) the Dorians invaded the peninsula under Temenus, Cresphontes, and Aristodemus, all sprung from Hercules. Tisamenus, driven from his other possessions, made a stand in Achaia; Arcadia was not attacked; but all the rest was parcelled among the invaders. Temenus had Argolis; Cresphontes Messenia; and Aristodemus dying, his twin sons Eurysthenes and Procles were made joint kings of Lacedæmon, of Sparta, or of Laconia; the first of these being the name by which the state or people is generally described, the second the name of the capital, the third of the province. Eurysthenes and Procles were each the founder of a royal house; and from their time there were constantly two kings of Lacedæmon, one from each family. Eleia was allotted to Oxylus, an Ætolian chief associated in the enterprise. The Pelopid kings had, probably, lost much power and popularity by their bloody family quarrels, and hence the conquerors had a favouring party in many places. But whatever be the plea of hereditary right by which the invasion is defended, whatever the promises held forth to allure the natives to submission, a government of conquest must ever be oppressive. The chiefs were obliged to recompense their followers, and their demands could only be satisfied by the general spoliation of the old inhabitants. Great numbers emigrated, the rest were mostly made slaves, and the Dorians remained sole masters of the soil, except in Messenia, where much was left to its rightful owners. From this revolution, commonly known as the Return of the Heracleidæ, or sons of Hercules, the Dorian name began to be powerful in Greece. Civilisation, which had previously made some progress in the peninsula, was thrown

* Perseid line.—The descendants of Perseus were called Perseidæ, those of Pelops Pelopidæ; and generally the members of every considerable family were denoted by an appellation formed in a similar manner from the name of some distinguished ancestor.

back by the irruption of the rude mountaineers, and the country was unceasingly torn with disputes arising from the partition of the territory won.

A common bond of union between Grecian towns, connected with each other by blood or alliance, was the institution of periodical meetings for religious observances and social festivity. These meetings were usually made attractive by splendid ceremonies, and by prizes offered to competition in athletic exercises, in poetry and music. A legend existed, that Hercules had instituted such a festival at Olympia, an Eleian town peculiarly consecrated to Jupiter; and Iphitus, king of Elis, the grandson of Oxylus, projected the making this report a means to soften the mutual enmities of the Peloponnesians, and to provide, at least, a periodical interruption of strife and bloodshed. The oracle at Delphi was now generally revered, and especially by the Dorians, whose race had come from its vicinity. Iphitus procured from the oracle a command that the Olympian festival should be restored, and a cessation of arms immediately proclaimed for all cities desirous of partaking in it; and the Peloponnesians, sending to inquire into the authenticity of the mandate, were ordered to submit to the direction of the Eleians in re-establishing the ancient customs of their fathers. Olympia was made the scene of a festival open to all Greece, which consisted in sacrifices to Jupiter and Hercules, and in contests exhibited to their honour. (B. C. 776.) Every fourth year was the period appointed for the recurrence of the celebration; and to prevent the attendance from being interrupted by war, a general armistice was ordered through Greece for some time, both before its beginning, and after its close. An olive garland was the only prize of victory in the different exercises; but this became a very envied distinction, and the interest taken in the contests, with the splendour and sanctity of the religious ceremonies, drew together an enormous concourse of spectators, and made the festival a fit occasion to communicate, readily and solemnly, whatever it concerned the Greeks in general to know. Hence, treaties were often by mutual agreement proclaimed at Olympia, and engraved on columns there erected, as a public and generally accessible record. The presidency of the festival was assured to the Eleians, with other remarkable privileges. A tradition was current

that the Heracleidae, on making Oxylus king of Elis and guardian of the temple of Olympian Jupiter, had consecrated all Eleia to the god, and denounced the heaviest curses against all who should invade it, or should even suffer its invasion. Iphitus procured the acknowledgment of the tradition, and for many ages it was almost uniformly observed; and this made the Eleians singularly prosperous, and strikingly different in habits from the other Greeks. In general the smallness of the Grecian states, and their frequent mutual hostilities, made the citizens reside in fortified towns; their lands were cultivated by slaves, and on every alarm, the moveable property was brought within the walls, while the fixtures were destroyed by the invader, unless the force of the city were sufficient to repulse him. The Eleians, on the contrary, enjoyed a security which enabled them habitually to reside on their lands, and in building, planting, and every species of expensive improvement, to rest assured that they would not be robbed of the fruit of their labours; and hence they became remarkable for their opulence, for the perfection of their husbandry, the comfort and substantial character of their country-houses, and their strong attachment to a rural life, which all their institutions were directed to encourage. The advantages produced by the Olympian festival, to Elis and to Greece, excited attempts to imitate that institution, and three similar meetings were established, each to be held on one of the years intervening between two successive Olympiads. These were the Pythian, held at Delphi, the Isthmian, near Corinth, and the Nemean, in the territory of Argos; all which attained considerable celebrity, and contributed to maintain some sense of national union in Greece, interrupting annually its continual warfare by intervals of truce and friendly communication, between the most hostile states.

The government established by the Heracleidae was the same which then was universal in Greece, an irregular mixture of monarchy and oligarchy*, with a slight infusion of democracy. In a people recently emerged from barbarism, the power is always chiefly in the landholders. If the lordships be large, the proprietors are sovereign on their own estates; and though, for the military

* Oligarchy, the government of a few: democracy, that of the people.

advantages of union, they may acknowledge a king, he is little more than the head of a confederacy. But when the lordships are too small for independent defence, the proprietors are obliged to stricter union; they assemble therefore in towns, and the king is the chief magistrate as well as the military leader; the power being principally in the landholders, but exercised by them as a body over the people, and not as lords over their respective vassals. This was the first political order of Greece. The judicial power, with the general regulation of affairs, was in the council of the principal persons, under the titles of elders, chiefs, or princes: the king was military commander, president of the council, and priest. The assembly of the people had little to do with the ordinary direction of the state, being paramount indeed when called together, but only called on unusual occasions, and principally to decide the contests of the king and chiefs. The king was weak, the people scattered; the great proprietors were strong and united, and gradually monopolised the powers of the state, till the towns almost universally passed into oligarchical republics. There was little wealth but what arose from the land, and that was daily more concentrated in the ruling families by constant intermarriages, and by their support of each other's oppressions and encroachments. Manual labour being performed by slaves, in states that were not commercial, there was no means to eke out a scanty inheritance but the borrowing of money at exorbitant interest, with little prospect of repayment: the loan was readily offered by the wealthy, and in the end the land was sold to satisfy the creditor: and the small proprietors being thus destroyed, the city was divided into poor and rich, of whom the former were regarded by the latter at once with jealousy and with contempt, as persons to be kept down by every means, and proper subjects for every outrage; while they, on their part, were looking for an opportunity to enrich and avenge themselves by the spoliation of their oppressors. Such an opportunity frequently was given, when the oligarchy was divided within itself, and the weaker party made common cause with the people against its opponents; and hence a series of bloody commotions which runs through all the history of Greece. In some states the growth of commerce fostered a middle class, divided from the landed oligarchy by the different

nature and less concentration of their wealth, who had property which interested them in regular government, and intelligence and union which made them a check on the oppressions of the powerful. Where this was the case, it commonly produced a comparatively mild and regular oligarchy, and sometimes a permanent democracy; without this class, a permanent democracy rarely arose, as the lower people had not steadiness to conduct it, and the only change in such a state was from a tyrannical oligarchy to the arbitrary ascendancy of demagogues no less tyrannical.

In the age which followed the Dorian conquest of Peloponnesus, the causes described were in full operation. In most states the power of the king diminished gradually, and at length was abolished; all authority being engrossed by the wealthy landholders, who abused their ascendancy so as to incur the bitterest hatred of the poor. Hence arose perpetual contests between poor and rich, and governments constituted by the prevailing faction for the most effectual depression of the other. Besides these sources of internal dissensions, there were continual wars between city and city. In every district the smaller towns had exercised each its municipal government under the general superintendence of the king. When royalty was abolished, they would not own any supremacy in the capital; the king had their obedience, not as the head of a superior commonwealth, but as the common chief magistrate of all the cities in the province; and the claim of authority enforced by the capital was resisted with arms by the towns. Argos was the first to abolish royalty, or to reduce it to a cipher; but it was not happy in the government established in its place. The hostility between the rich and poor was there at its height, and seditions were uncommonly frequent and violent, in which the mastery was gained at different times by each; while its dominion, anciently the most extensive in Greece, was curtailed by the revolt of numerous towns, of which many succeeded in maintaining independence. Corinth, though suffering several revolutions, was commonly the quietest of the Peloponnesian republics, and that which was ruled with most of equity and moderation. Its site on the isthmus made it the great thoroughfare between Peloponnesus and Northern Greece, and gave it the commerce both of the eastern and western seas; and the flourishing of

trade produced a middle class, which in some degree protected the poor against oppression, and the rich against the consequences which might have ensued from their own excesses if unrestrained.

Besides the ordinary sources of dissension, Lacedæmon had one peculiar to itself in its divided royalty. The two kings were ever at variance, and in a contest where no political principle was at stake, the only motive to side with either was his personal influence and the hope of profiting by his favour. Hence partisans could only be secured by defending them through right and wrong: every powerful delinquent was sure to be backed by one or other of the kings; and between connivance at excesses, and the courting popularity by receding from prerogative, the regulating power of the government gave way to an anarchy, producing unmitigated oppression to the many, and to the few a tyranny unchecked by law, but rendered dangerous by the violence of rivals and the despair and hatred of the poor. Such was the state of Lacedæmon, when the death of Polydectes, the fifth from Procles, gave the crown to Lycurgus his brother, who soon after, discovering the late king's widow to be pregnant, immediately declared that he held it only as protector for the infant, if a boy, as it proved. The prudent and upright measures of Lycurgus to secure his nephew on the throne, greatly raised his character, which was already high; and though his enemies were afterwards strong enough to occasion his retirement from Sparta, he was looked on as the only person able to settle the distracted commonwealth, and at length was invited back by kings and people to legislate for the state. (B.C. 708.) Having procured the sanction of the oracle at Delphi, he returned with his plan already formed, its leading principles being adopted from Crete, where much of his exile had been passed. Some time was spent in organising a party; and then he summoned an assembly of the people, where, partly through persuasion, and partly through fear, his scheme of government was carried. The entire direction was given to a senate of thirty persons chosen for life, twenty-eight of them from those leading men whom he most trusted, with the two kings as presidents. Future senators were to be elected by the people, from such as had passed their sixtieth year. All laws originated in the senate, and the assembly of the people was confined

to the simple approval or disapproval of the decrees sent down to it, being precluded from all discussion, and even from stating the reasons of the vote. The kings had the priesthood, and the command of the army. But in after-times the most important magistracy was that of the Ephori, who are said to have been either instituted or first made considerable by king Theopompus, above 100 years after Lycurgus. They were five in number, taken annually from the people, and their office was to watch over the delinquencies and ambitious projects of any, whether magistrates or private persons. They were empowered to fine, imprison, depose from office, or bring to an immediate trial any person from the king to the poorest citizen, and this acting by their own discretion, unrestrained by any precise law. In the course of time they gained a power almost despotic, and the more intolerable because, as the method of election is stated to have been bad, though we are not informed of its nature, they were often persons of little character or ability.

The most pressing evils were those arising from excessive inequality of fortunes. Lycurgus struck at the root of the mischief, by first equalising property, and then removing alike the motives and the means to accumulate. He made a law for the equal division of the lands; forbade the coining any metal more precious than iron; allowed men to borrow any utensil they wanted even without consulting the owner; and adopted the Cretan institution of public messes, at which every citizen was obliged to live. His object was that all the Spartans should enjoy equality and competence, and being free from the necessity of gainful labour, and the vices generated by the love of gain, should devote their time to improving their capacities for the public service; a noble scheme, if its practicability had not been built on gross injustice. Agriculture and handicrafts must fall to some, and if the Spartan people were relieved from them, it was because the *people* formed a scanty portion of the inhabitants, and the rest were slaves condemned to hopeless labour, and not considered as a part of the community. The great defect of Grecian morality was the acknowledging no duties between man and man, except as linked by some specific bond of blood, law, or treaty. The patriotism of each was generally confined to his particular state; but his most ex-

tensive philanthropy only reached to the Grecian race, and held as laudable every injury to * barbarians, which gratified the pride, or glutted the avarice of Greeks. It was in this spirit that many philosophers doubted the lawfulness of enslaving Greeks; but all approved of enslaving barbarians, and considered slaves as almost without rights: and it was in this spirit, too, that the Lacedæmonians, holding their bondmen under heavier oppression than was practised in any other Grecian state, conceived their boast of universal equality to be warranted by the unjust and insolent denial, that *they* were a portion of the people, who composed the mass of the population, and nourished the whole. The effect of the system even on the citizens was far from being entirely favourable. The mind may sometimes be degraded by a life of money-making labour, but not so certainly as by living on the compelled and unrewarded toil of others: and if the love of gain was excluded, the love of tyranny was called into unprecedented activity, every citizen being empowered to command and punish all the slaves, as well those of others as his own. The brutal treatment of the † Helots produced in them a rancorous hatred; which frequently endangered the existence of Sparta, and in their masters a jealousy that led to further oppressions, practised expressly to break their spirits, and bring them nearer to beasts: and these cruel precautions frequently went even to the secret murder of any who were marked by superior natural gifts of body or mind.

Having banished the desire of gain, the object of the legislator was to fill the void with love of praise and emulation in patriotism and courage, and to bring the citizens into the best training for war. The education of the children and the habits of the men were equally regulated by public authority, and care was taken that all family ties should be weaker than that which bound the citizen to the commonwealth. The boys were reckoned as belonging less to their parents than to the state, and were taken from the former to be educated in bands

under appointed governors: they were bred to military exercises, and the uncomplaining endurance of hardships; practised in combats with each other; and kept on scanty fare, but encouraged to mend it by whatever they could take undiscovered from the messes of the men. By this they were formed to enterprise and circumspection, being liable, if detected, to heavy punishment for their awkwardness. In the absence of their governor they were subject to the authority of any citizen who chanced to be present, and were chastised by him for ill behaviour or disobedience. It was an usual amusement with the men to be present when the boys were at their meals, and to propose to them questions to be answered as shortly and pithily as they could: and hence the Spartans were remarkable for readiness in reply, and a brief and pointed style in speaking, which from them has been called Laconic. The maturer youths were under a discipline but slightly different; and both were obliged to pay to the men unlimited obedience and great respect, and to maintain an unexampled rigour in the decorum of outward behaviour. Emulation was promoted by every method both in men and boys, and in some instances at the cost of cherishing an envious watchfulness over each other's failings. This system produced in the Spartans a most exact obedience to the laws, and made the love of their country in a wonderful degree a ruling principle ever present to their minds: but the constant publicity of their lives gave little scope to those domestic affections which might have tempered their hardness of heart, and taught them to feel as men for men, and not exclusively as citizens of Lacedæmon, utterly careless of the general interests of mankind. On gaining manhood they were required to marry; but it was disreputable for a young man to be seen in company with any woman, even with his wife: and as the end of marriage with Lycurgus was not domestic happiness, nor mutual affection, but to raise up soldiers for the state, he destroyed the sanctity of the marriage bed, encouraging the old to procure themselves children by inviting some younger friend to intercourse with their wives. The education of women was governed by the same principles as that of men. Their constitutions were strengthened by gymnastic exercises, that they might bear more vigorous children; they were

* Barbarians, the name under which the Greeks included all people not of Grecian blood.

† Helots, the most numerous and most important class of slaves among the Lacedæmonians. Agriculture was entirely committed to them, and those who were employed in it, paid to the owners of the land a stated quantity of produce, which, according to Plutarch, it was forbidden to increase. In other respects they were at the mercy of their masters,

taught to rival the men in patriotic ardour and the love of martial glory, that the hope of their applause, and the dread of their scorn, might more powerfully stimulate to daring; but Lycurgus cared little for domestic virtues; and rather discountenanced as inconvenient that purity of thought and tenderness of feeling, which are elsewhere the peculiar grace of the sex.

Courage, hardihood, and obedience, strong love of praise, and fear of shame, directed entirely to war, made the Lacedæmonians a most formidable people. A Spartan was disgraced for ever, who gave way to fear in the most hopeless situation; and after a defeat, amidst the general mourning, the kindred of those who had fallen were required to wear a face of joy, because their relations had not shared the reproach of flight. Surrounded and overmatched, they would perish rather than yield, and the surrender of a Lacedæmonian detachment to whatever odds, was a wonder to Greece. To this invincible spirit, they added a decided pre-eminence in discipline and skill. The fate of Grecian battles usually depended on the heavy-armed foot, who had each a helmet and breastplate, a large shield and long spear, and a small sword rarely used. They were formed with levelled spears in a close body, among the Lacedæmonians most commonly eight deep. The phalanx, so this order was called, while it kept its array, was irresistible, except by a similar body: but it was slow in movement and liable to be harassed securely with missiles, and disordered by unequal ground; and, once broken, it was defeated, the long spear and heavy shield being, in a mingled scuffle, more incumbrances than aids. To preserve the order in all circumstances, great readiness and regularity in evolution were required; and for this the Lacedæmonians were distinguished, as well as for a remarkably well organized system of subordinate command. All the soldiers were waited on by Helots, who acted as light-armed troops, a service so despised, that the light troops are generally omitted by Greek writers, in stating the numbers of an army. They had a few cavalry, whose principal use was to disperse the light troops of the enemy, but who never ventured to attack his phalanx; and this was a service little cultivated by the Lacedæmonians. To increase their alacrity, the camp was made to them a place of comparative

ease, the severe discipline enforced in the city being there considerably relaxed: and that their reliance might be entirely on their superiority in the field, Lycurgus forbade the city to be fortified, stigmatizing walls as the defence of cowards.

The Lacedæmonian character proves at once the ability of Lycurgus in suiting his laws to the ends he proposed, and the presumption of overstepping the true province of a legislator, which is not to fashion the popular mind by a factitious standard, but to check its wanderings from nature and reason. The law was made the only rule of right, and to question its wisdom, the greatest of offences; and hence its faults were perpetuated in the character of the citizens, while, where it was silent, there was no general principle of morality to guide them. The excellence aimed at was very limited, and almost entirely warlike; and every institution tending to increase the military efficiency of the population was readily adopted, whatever vices of a different nature it might involve. The system succeeded; the behaviour of the citizens towards each other and towards the state was completely regulated; and the Lacedæmonians, as a people, were remarkable for the strict observance of their very limited moral code. But in their relations to all without their commonwealth, "they were neither governed by their own laws nor by the principles held sacred through the rest of Greece." In foreign command, with a few brilliant exceptions, they were harsh, unjust, and tyrannical; towards the wretched Helots uniformly cruel, and sometimes most basely treacherous; while their external policy, always grasping, selfish, and ungenerous, often profligate in the extreme, is best described in the words of Thucydides, "That most remarkably of all we know, they hold things pleasant to be honourable, and things profitable to be just." Yet however vicious and unnatural as a whole, the Spartan character stands alone in the exaltation, permanence, and universality of fortitude and patriotism; and the degree in which these qualities were displayed by nearly every individual in that republic, may make us hope for the noblest effects of education on mankind, whenever a sagacity like that of Lycurgus in the choice of means, shall be directed to the teaching a purer and more comprehensive morality.

The increased strength and excited ambition of Lacedæmon were soon felt by all the bordering states, but by none so fatally

as by Messenia; Inflamed by wrongs both done and suffered, in the second generation after Lycurgus, (B.C. 652) the Lacedæmonians resolved to make a sudden attack on that province without any declaration of war, and bound themselves by oath never to abandon the enterprise, and even never to return to their families till Messenia was subdued. They surprised Amphieia, a frontier town, the gates being open and unguarded as in time of peace; and that treachery might not be unaccompanied with cruelty, all found there were put to the sword. Euphaes, the Messenian king, had wisdom and courage; and, aware of the Lacedæmonian superiority in the field, he protracted the war, avoiding battles and defending the towns. In the fourth year, however, a battle was fought with great slaughter and doubtful success. But the Messenians were suffering from garrison confinement and the constant plundering of their lands. New measures were taken. The people were collected from the inland posts at Ithome, a place of great natural strength, and open to supplies by sea, the Lacedæmonians having no fleet. Meanwhile they asked advice of the Delphic oracle, which bade them sacrifice to the infernal deities, a virgin of the blood of Æpytus, son of the Heracleid Cresphontes. Impelled by patriotism or ambition, Aristodemus offered his own daughter; and when it was intended to save her by falsely denying her virginity, in his rage he slew her with his own hand. The fame of the obedience paid to the oracle so far disheartened the enemy, that the war languished for five years: in the sixth an invasion took place, and a battle, bloody and indecisive like the former. Euphaes was killed, and left no issue, and Aristodemus was elected to succeed him. The new prince was brave and able, and the Lacedæmonians, weakened by the battle, confined themselves for four years to predatory incursions. At last they again invaded Messenia, and were defeated: but in the midst of his success, Aristodemus was so possessed with remorse for his daughter's death, that he slew himself on her tomb, and deprived his country of the only leader able to defend her. Ithome was besieged. The famished inhabitants found means to pass the Lacedæmonian lines, and fled for shelter and subsistence, some to neighbouring states where they had claims of hospitality, others to their ruined homes, and about their desolated country.

Ithome was dismantled; and those who remained of the Messenians were allowed to occupy most of the lands, paying half the produce to Sparta.

The absence from home to which the Lacedæmonians had bound themselves, became, by the protraction of the war, an evil threatening the existence of the state, no children being born to supply the waste of war and natural decay. The remedy said to have been adopted was a strange one, highly characteristic of Lacedæmon, and such as no other people would have used. The young men who had come to maturity since the beginning of the war, were free from the oath, and they were sent home to cohabit promiscuously with the marriageable virgins. But even at Sparta this expedient, in some degree, ran counter to the popular feelings. When the war was ended, and the children of this irregular intercourse grown to manhood, though bred in all the discipline of Lycurgus, they found themselves generally slighted. Their spirit was high, their discontent dangerous; and it was thought prudent to offer them the means of settling out of Peloponnesus. They willingly emigrated, and under Phalanthus, one of their own number, they founded the city of Tarentum in Italy.

During forty years Messenia bore the yoke. But the oppression of the inhabitants was grievous, and embittered with every circumstance of insult, and the Grecian spirit of independence was yet strong in them; they only wanted a leader, and a leader was found in Aristomenes, a youth of the royal line. Support being promised from Argos and Arcadia, allies of his country in the former war, Aristomenes attacked a body of Lacedæmonians, and, though not completely successful, did such feats of valour that the Messenians would have chosen him king; but he declined it, and was made general-in-chief. His next adventure was an attempt to practise on the superstitious fears of the enemy. Sparta having neither walls nor watch, he easily entered it alone by night, and hung against the Brazen House, (a singularly venerated temple of Minerva,) a shield with an inscription declaring that Aristomenes from the spoils of the Spartans dedicated that shield to the goddess. Alarmed lest their protecting goddess should be won from them, the Lacedæmonians sent to consult the Delphian oracle, and were directed to take an Athenian adviser. The Athenians, though

far from wishing the subjugation of Messenia, yet feared to offend the god if they refused compliance; but in granting what was asked, they hoped to make it useless, and sent Tyrtæus, a schoolmaster, poor and lame, and supposed to be of no ability. The choice proved better than they intended, since the poetry of Tyrtæus being very popular, kept up the spirit of the people in all reverses.

The Messenian army had now been reinforced from Argos, Elis, Arcadia, and Sicyon, and Messenian refugees came in daily: the Lacedæmonians had been joined by the Corinthians alone. They met at Caprusema, where by the desperate courage of the Messenians, and the conduct and extraordinary personal exertions of their leader, the Lacedæmonians were routed with such slaughter, that they were on the point of suing for peace. Tyrtæus diverted them from this submission, and persuaded them to recruit their numbers by associating some Helots, a measure very galling to Spartan pride. Meanwhile, Aristomenes was ever harassing them with incursions. In one of these he carried off from Caryæ a number of Spartan virgins assembled to celebrate the festival of Diana. He had formed a body-guard of young and noble Messenians who always fought by his side, and to their charge he gave the captives. Heated with wine, the young men attempted to violate their chastity, and Aristomenes, after vainly remonstrating, killed the most refractory with his own hand, and on receiving their ransom, restored the girls uninjured to their parents. Another time, in an assault on Ægila, he is said to have been made prisoner by some Spartan women there assembled, who repelled the assault with a vigour equal to that of the men; but one of them who had previously loved him favoured his escape.

In the third year of the war, another battle took place at Megaletaphrus, the Messenians being joined by the Arcadians alone. Through the treachery of Aristocrates, prince of Orchomenus, the Arcadian leader, the Messenians were surrounded and cut to pieces, and Aristomenes, escaping with a scanty remnant, was obliged to give up the defence of the country, and collect his forces to Eira, a strong hold near the sea. Here he supplied the garrison by plundering excursions, so ably conducted as to foil every precaution of the besiegers, inasmuch that they forbade all culture of the conquered territory, and even of part of

Laconia. At last, falling in with a large body of Lacedæmonians under both their kings, after an obstinate defence he was knocked down and taken, with about fifty of his band. The prisoners were thrown as rebels into a deep cavern, and all were killed by the fall except Aristomenes, who was wonderfully preserved and enabled to escape, and returning to Eira, soon gave proof to the enemy of his presence by fresh exploits equally daring and judicious. The siege was protracted till the eleventh year, when the Lacedæmonian commander, one stormy night, learning that a post in the fort had been quitted by its guard, silently occupied it with his troops. Aristomenes flew to the spot and commenced a vigorous defence, the women assisting by throwing tiles from the house tops, and many, when driven thence by the storm, even taking arms and mixing in the fight. But the superior numbers of the Lacedæmonians enabled them constantly to bring up fresh troops, while the Messenians were fighting without rest or pause, with the tempest driving in their faces. Cold, wet, sleepless, jaded, and hungry, they kept up the struggle for three nights and two days; at length, when all was vain, they formed their column, placing in the middle their women and children and most portable effects, and resolved to make their way out of the place. Aristomenes demanded a passage, which was granted by the enemy, unwilling to risk the effects of their despair. Their march was towards Arcadia, where they were most kindly received, and allotments were offered them of land. Even yet Aristomenes hoped to strike a blow for the deliverance of his country. He selected 500 Messenians, who were joined by 300 Arcadian volunteers, and resolved to attempt the surprise of Sparta, while the army was in the farthest part of Messenia, where Pylos and Methone still held out. But the enterprise was frustrated by Aristocrates, who sent word of it to Sparta. The messenger was seized on his return, and the letters found on him discovering both the present and former treachery of his master, the indignant people stoned the traitor to death, and erected a pillar to commemorate his infamy.

The Messenians, who fell under the power of Lacedæmon, were made Helots. The Pylians and Methonæans, and others on the coast, now giving up all hope of further resistance, proposed to their countrymen in Arcadia to join them in seek-

ing some fit place for a colony, and requested Aristomenes to be their leader. He sent his son. For himself, he said, he would never cease to war with Lacedæmon, and he well knew that, while he lived, some ill would ever be happening to it. After the former war, the town of Rhegium in Italy had been partly peopled by expelled Messenians. The exiles were now invited by the Rhegians to assist them against Zancle, a hostile Grecian town on the opposite coast of Sicily, and in case of victory the town was offered them as a settlement. Zancle was besieged, and the Messenians having mastered the walls, the inhabitants were at their mercy. In the common course of Grecian warfare, they would all have been either slaughtered or sold for slaves, and such was the wish of the Rhegian prince. But Aristomenes had taught his followers a nobler lesson. They refused to inflict on other Greeks what they had suffered from the Lacedæmonians, and made a convention with the Zancleans, by which each nation was to live on equal terms in the city. The name of the town was changed to Messene, which with little variation it still retains, and it has ever since been among the greatest cities in Sicily.

Aristomenes vainly sought the means of further hostilities against Sparta, but his remaining days were passed in tranquillity with Damagetus prince of Ialysus in Rhodes, who had married his daughter. His actions dwelt in the memories of his countrymen, and cheered them in their wanderings and sufferings: and from their legendary songs, together with those of the Lacedæmonians, and with the poems of Tyrtæus, the story of the two Messenian wars has been chiefly gathered by the learned and careful antiquary Pausanias, from whose work it is here taken. The character of Aristomenes, as thus represented, combines all the elements of goodness and greatness, in a degree almost unparalleled among Grecian heroes. Inexhaustible in resources, unconquerable in spirit, and resolutely persevering through every extremity of hopeless disaster, an ardent patriot and a formidable warrior, he yet was formed to find his happiness in peace: and after passing his youth under oppression, and his manhood in war against a cruel enemy, wherein he is said to have slain more than 300 men with his own hand, he yet retained a singular gentleness of nature, insomuch that he is related to have wept at the fate

of the traitor Aristocrates. The original injustice and subsequent tyranny of the Lacedæmonians, with the crowning outrage in the condemnation as rebels of himself and his companions, might have driven a meaner spirit to acts of like barbarity: but deep as was his hatred to Sparta, he conducted the struggle with uniform obedience to the laws of war, and sometimes, as in the case of the virgins taken at Caryæ, with more than usual generosity and strictness of morals.

CHAPTER III.

Of Athens, from the Trojan War, to the political alterations of Cleisthenes, and the first interference of Persia in the affairs of Greece; and of the general transactions of Greece, during the latter part of the same period.

ATHENS had been early civilised and flourishing beyond the rest of Greece, and particularly since Theseus had given to its institutions a regularity which seems to have kept it tranquil, even amidst the general convulsions which followed the return of the Greeks from Troy. When Tisamenus was driven into Achaia, that province was unable to support its increased population, and many of the old inhabitants being compelled to emigrate, went to Athens as a safe and eligible refuge; and the more willingly, as they, like the Athenians, were of the Ionian race. The reception of these and other refugees provoking the jealousy of the conquerors, Attica was invaded by a powerful army from Peloponnesus. The Delphian oracle had promised victory to the Dorians if they did not kill the Athenian king; on which Codrus, the king, resolved to devote himself for his people, and entering the Peloponnesian camp disguised as a peasant, provoked a quarrel in which he was killed. Alarmed at learning who had been slain, the invaders hastily retreated: but Megara, a town which had been founded by the Dorians on the Athenian territory near the isthmus, remained independent. Medon the eldest son of Codrus was lame, and his younger brother took advantage of this to dispute the succession; while a third party, adverse to both, declared that they would have no king but Jupiter. An answer was procured from Delphi in favour of Medon, and the dispute was compromised, it being determined that after Codrus none could be worthy of the title of king; that Medon should

be first magistrate, with the title of Archon; that this honour should be hereditary, but that the Archon should be accountable to the assembly of the people. These things happened B. C. 804. Attica being overpeopled through the multitude of refugees, a colony was sent to Asia Minor under Androclus and Neleus sons of Codrus. The most restless spirits emigrated, and long quiet ensued.

The coast of Asia from Cyzicus on the Propontis to the river Hermus, with the island of Lesbos, had already been colonised by Greeks. This tract was called *Æolis*, the settlers being mostly *Æolians* from Peloponnesus, driven thence at the Dorian conquest, and partly also in some preceding commotions. The emigrants from Athens occupied the coast extending southward from the Hermus, with the islands Chios and Samos. They founded twelve cities, of which the greatest were Ephesus, where Androclus resided, and Miletus, the most southern point of Ionia, the residence of Neleus. The authority of Androclus at first extended over all the cities, but the kingly power being soon abolished, each became a separate republic, though all were connected by a confederacy, with a general congress called Panionion, or the meeting of all the Ionians. Yet further south, some Dorian colonies were established in Caria. The island of Rhodes had long been Grecian, and settlements were soon after made on the northern shore of the *Ægean* sea, along the coasts of Macedonia and Thracæ. Nor did the Greeks confine themselves to the *Ægean*. At different times, they settled most of the large and fertile island of Cyprus, at the eastern corner of the Mediterranean; founded Cyrene and other flourishing towns in Africa; occupied many places on the Euxine, more than half the coast of Italy, and of that of Sicily nearly the whole. The Greeks rarely coveted inland territories, and these were left to the natives, while the settlers established themselves along the sea, which enabled them to communicate with each other, and with the Grecian nation, of which they still esteemed themselves a part.

Twelve hereditary archons followed Medon. The last was Alcmaeon, at whose death, about 160 years after that of Codrus, Charops was made archon for ten years, and six more succeeded under the same limitation. Afterwards the duration of the office was reduced to a year,

and its duties divided among nine persons, taken, at first by suffrage, and afterwards by lot, from the *eupatridæ*, or nobles. One was chief among them, and by his name the year of his magistracy was distinguished, whence he was called archon Eponymus, or naming archon; but oftener simply the archon. The second had the title of King, and like the kings of old, the function of high priest. The third was called Polemarch, and was originally, as his name imports, the military commander. The other six were called Themsothetæ, or setters forth of the laws: they presided as judges in the courts, and the six formed a tribunal which had a peculiar jurisdiction. The nine together formed the council of state. Legislation was in the people, but almost the whole administration rested on the archons.

All power being confined to the *eupatridæ*, it was to be expected that Athens should be torn by the clashing ambition of factious nobles. The strongest family was that of the Alcmaeonidæ, descended from the last perpetual archon, and through him from Codrus. Cylon, a man of great nobility and power, could ill brook the predominance of that house. Elated by his marriage with the daughter of Theagenes, the chief of Megara, and by victories in the chariot race at Olympia, (an honour highly valued, and conceived to carry with it something of favour from the god of the festival,) and further encouraged by a favourable answer from Delphi, he attempted to make himself tyrant of Athens; the name by which the Greeks denoted a man, who had brought under his dominion a state, of which the legal government was republican. With the aid of some troops supplied by Theagenes, Cylon and his friends seized the citadel of Athens. They were besieged by the people under Megacles, the head of the Alcmaeonidæ, who was chief archon; and after a time, being pressed by famine, Cylon escaped, and his deserted followers quitted their arms, and fled for safety to the altars, it being deemed impious to kill them there, or force them thence. Induced by the promise of life to leave the altars, they were notwithstanding put to death: but so deep was the impression made on the Athenians by the perfidy, and still more by the impiety of the action, that all concerned in it were banished. They returned indeed, but though many of their descendants were men of high consideration, an ever ready and effectual method

for their adversaries to embarrass them, was by requiring their expulsion as inheriting the curse of sacrilege. These and similar disorders required a remedy, and Dracon was called to legislate for Athens. The political constitution he did not alter, but he established a penal code absurdly severe; every crime, great or small, being made capital, on the ground, that every breach of a positive law was treason to the state. The necessary consequence was, that few would either prosecute or convict, and all crimes went unpunished, except the greatest.

Meanwhile Salamis, an island in the Saronic Gulf, till then subject to Athens, revolted, and allied itself with Megara. After many attempts to recover it had failed with loss, the people in their disgust, for the first time, united in opposition to the oligarchy. Assembling, they voted death to any who should propose again to lead them against Salamis. But Salamis, connected with Megara, was a troublesome neighbour, and the people were soon dissatisfied with their act, though none dared to propose its reversal. Solon, a young man of noble birth, had hitherto been remarkable only as a lover of learning and a poet. Having spread a report that he had occasional fits of phrensy, he ran out into the assembly, and mounting the herald's stone, he recited a poem fitted to rouse the people to renew the war. Some of his friends were prepared to applaud; the decree was enthusiastically reversed, and Solon, being appointed to lead another expedition against Salamis, reduced the island. The government again became settled in the hands of the party of Megacles. But Athens was subject to all the evils of oppression by the rich, and misery in the poor, which naturally spring from oligarchical government and slave-labour: and its convulsions were exasperated by the Megarians taking Nisæa, (an Attic town on the coast, which was afterwards the port of Megara,) and drawing Salamis again to revolt; and also by the enmities and religious fears remaining from the affair of Cylon. Epimenides, a Cretan philosopher, with whom Solon is said to have concerted the form of government he afterwards introduced, was invited to point out the means of restoring harmony and averting the anger of the gods; and having calmed the popular mind by religious ceremonies, he departed with great credit, leaving behind him a temporary quiet, and refusing all rewards, except a

branch of the sacred olive which grew in the Acropolis. But the people were still split into clashing parties. The democratical interest was strong in the mountains, the oligarchical in the valleys, which were mostly the property of the eupatridæ; the people of the coast favoured the mixed government. All eyes were turned to Solon, as the only man capable of settling the distracted commonwealth, and in the year B. C. 562 he was appointed archon with peculiar powers of reforming the state. He was popular among the poor, for his benevolence and equity; and the nobles, alarmed at the general discontent, were glad to see the reform in the hands of one of their own class. He executed the task with great success, both in respect of the political constitution, and of the code of civil and criminal law: the latter of which attained such fame, that the Romans formed their laws upon it; and through them it has become the basis of the laws now existing in most of Europe.

The first thing to be done was to settle the quarrels of the rich and poor. Through the difficulty of a poor freeman gaining a livelihood where labour was mostly performed by slaves, the poor were usually deep in debt; and at Athens, an insolvent debtor might be taken as a slave, and his wife and children also, if less would not satisfy the debt. This exorbitant power was tyrannically used, and the removal of the evils thence arising was necessary, before order could be established. This Solon seems to have done, by lowering the interest of all debts, raising the nominal value of money, and taking from the creditor all power over the persons of the debtor and his family. The former two are violent measures: but in this case the existing evil was extreme, and probably justified the employment of such means. He then proceeded to arrange the constitution of the republic, dividing the people into four classes, according to their estates. The first contained all who received yearly from their lands five hundred medimni (each a little more than a bushel) of corn, oil, or any other produce: the second, those who received three hundred medimni. All these were exempt from infantry service, except in command, but were bound each to keep a horse and to serve in the cavalry, and were therefore styled horsemen, or knights. The third class, called Zugitæ, was of persons whose land gave two hundred medimni, but not three hundred,

and these were bound to serve in the heavy-armed foot, and to be provided with arms for that purpose. The rest were called Thetes, and these, if they had fit armour, might act among the heavy-armed; if not, they were reduced to the less honourable service of the light-armed. Afterwards, when Athens became a naval power, they principally manned the fleet. The thetes were excluded from offices of magistracy, which indeed, if admissible, they would hardly have coveted, since such offices at Athens were mostly without pay. But they were admitted as jurors in the courts, and had an equal vote with all other freemen in the election of magistrates and the passing of laws by the assembly.

The judicial power, and the ordinary administration of the government, had both been principally in the archons. Solon transferred the former to the people, establishing ten courts, in each of which, causes were decided by six hundred jurors, taken by lot from all citizens, not less than thirty years of age, who had given in their names for that purpose to the thesmothetæ at the beginning of the year: the decision was by the majority. To determine some cases of unusual importance, all the six thousand jurors were united in one court, which was then called the Heliea. The administration he placed in a council, established by himself. Attica was anciently parcelled into divisions, which may be styled in English, wards (*phylæ*), and the wards into parishes (*demi*). From each of the four wards of which the people was composed, one hundred were yearly taken by lot to form the council. Previously to their admission, the members underwent, before the existing council, a strict inquiry into their past life, and if any thing could be proved against their character, they were rejected. The year was divided into periods, during which, the counsellors of each ward in turn, had additional powers, with the title of Prytanes. Afterwards, when the number of wards was increased to ten, these periods of course were ten also. At the same time the number of counsellors from each tribe was reduced to fifty. The common Attic year was a lunar year of 354 days, comprising twelve months, or periods of the moon. Every third year there was added a thirteenth month of thirty-three days, that the reckoning of time might again be brought to correspond with the solar

year, and with the order of the seasons. In the common year, each set of Prytanes retained the office for thirty-five days only, excepting the last four, which held it each for thirty-six: in the augmented year, the periods were of thirty-eight and thirty-nine. The Prytanes were a sort of managing committee, both for the council and for the assembly of the people: they directed the proceedings, summoned meetings, and dismissed them when the business was done, proposed for discussion whatever matters stood as orders of the day, and put the question when any thing was brought to the vote. One of them was entitled president (*epistates*), and he kept the public seal and the keys of the treasury and citadel: but this office lasted only one day, and was taken, during the period for which the counsellors of each ward held the office of Prytanes, by those counsellors in succession. In the council was transacted most of the business; and here ambassadors were first received and treaties negotiated, though the final decision of war and peace, and of all important matters, rested with the people. By Solon's constitution, nothing could be proposed in the assembly, which had not first been approved by the council; but this soon ceased to be strictly observed, though it still was most regular for decrees to be prepared by the council, and they were then brought forward with greater authority than if suggested to the assembly by an individual. Set days were appointed for the general assembly, and that the poorer citizens might be able to leave their ordinary occupations and attend it, a small pay was given from the treasury to all who came in time. When, as sometimes happened, the attendance was thin, the market was closed, and officers were sent about to mark all who were found loitering there, or in the streets, who were afterwards fined. Solon's principle in thus compelling attendance, was probably the same which dictated that singular law of his, that neutrals in civil contention should be punishable: to wit, the apprehension lest the people through indolence, carelessness, or selfish timidity, should suffer pernicious measures to be carried by the superior activity of a factious or interested minority.

The oldest and most celebrated of Athenian institutions was the court of Areiopagus, of which the powers were increased and the constitution improved

by Solon. He composed it of all who, after being archons, had come out with honour from the scrutiny which, at Athens, all public officers underwent on quitting their offices. The Areiopagites were the only functionaries appointed for life. Their court had the sole regular cognizance of most capital offences; from it alone there was no appeal to the people, and in some cases it was even known to annul a condemnation or acquittal which the people had pronounced. It controuled all issues from the public treasury, and exercised a censorship over the citizens, watching over and punishing impiety, immorality, and even idleness. The wisdom and justice of the court, and particularly the generally high character of its members, maintained it long in great esteem, and fitted it to what seems to have been a great end of its constitution, the checking the natural levity and unsteadiness of the Athenian character. In criminal trials it prescribed to both parties the utmost plainness and simplicity of statement, and banished all attempts to work on the passions of the judges. A less praiseworthy part of the procedure was, the requiring from every accuser an oath of peculiar solemnity that the charge was true; and from every defendant a similar oath that it was false. Frivolous accusation is a grave offence, but if no charge were brought but what the accuser certainly knew to be true, few criminals would be convicted. In the popular courts, where the judges, however honest, were liable to be prejudiced and hasty, and little skilled in sifting evidence, it might be necessary to throw a heavier responsibility on the accuser; but in the Areiopagus it would seem that there could be little need of such a safeguard; and in any case the strongest oath which ought to be required of the accuser is, that he conscientiously believes the defendant guilty. An oath being also required of the accused, in cases that came to an issue there must generally have been perjury on one side or the other: but this evil was considerably mitigated by the provision that a guilty defendant, if he chose, might withdraw before the oath was administered and go into exile.

The great benefits of Solon's legislation were the increased steadiness of the government and its less oligarchical character. Before, every thing depended on the archons, who were taken by lot from the small body of the eupatridæ. The general assembly was indeed supreme,

but it had no stated times of meeting and was seldom called together; and even when called, the mass of the people, ignorant and unused to public business, could only follow the beck of some powerful leader. Practically, therefore, none but the eupatridæ had any part in the conduct of affairs; while through the small number of the archons, the government was always liable to be disturbed by cabal, and was entirely dependent on the accident of their personal character. Solon, by appointing set days for the assembly, made its controul regular and permanent; by allowing to every citizen a vote in the election of magistrates, and constituting the courts of justice from the body of the people, he provided a popular check upon misgovernment, and secured to the needy the protection of the laws; by giving the chief administrative powers to a numerous council, who, like nearly all the magistrates under his system, were taken from every order of the citizens except the lowest, he transferred those powers from a small knot of wealthy men to a class whose interests practically agreed with those of the whole; at the same time that the number of the counsellors made caballing more difficult, and rendered it probable that their prevalent feelings would faithfully represent those of the persons from among whom they were taken. Still, however, the influence of the rich and noble was generally paramount at Athens, though moderated in degree and partly corrected in the manner of its exercise: and it was not till after-times that the city came into the state of a democracy, by a train of events equally singular and unforeseen.

Not long after the legislation of Solon, Athens was again distracted by contentions between the old parties of the lowlands and the coast. The first was headed by Lycurgus, the other by Megacles the chief of the Alcmæonidæ; and while they were at the height of their dissension, Peisistratus came forward at the head of the democratical, or highland party. All three were men of high birth, without which, at this time, there was little chance of greatness at Athens. Peisistratus was an eloquent speaker and a distinguished military leader, and by his mildness of character and affability of manners had become the most popular man in Athens. One day he came in a chariot into the market place, wounded and bloody, and complained that he had been way-laid by his enemies, and with

difficulty escaped alive. In after-times the story has been commonly treated as an imposture; but as it was long believed, and no account has come down to us of its detection, and as the history is told by persons hostile to Peisistratus, it seems not less probable that the attack was real; but, true or false, the people were persuaded to vote a guard to Peisistratus, and soon after, with his guard, he seized the Acropolis. His party supported him, and of his opponents, those who would not submit to him were forced into exile; and from this time he was generally considered as tyrant of Athens.

The word tyrant, among the Greeks, admitted various shades of meaning. In its strictest and most odious sense, it denoted an usurper of arbitrary dominion in a commonwealth; and to make the character complete, it was requisite that he should be supported against the hatred of the citizens by a mercenary guard. But there were more questionable applications of the word. The personal authority of a party-leader would often reach beyond the law, and enable him, with little violation of its provisions, to influence its administration according to his will; and particularly in governments where the rule of law was seldom precise, and much was left to the discretion of judges and administrators. Such a man would generally be charged by his adversaries with tyranny, especially if the contest had been decided by arms. By the common artifice of Grecian factions, appropriating to their own party the name of the people, they would complain that the people was kept down by force; and every unlawful proceeding of their enemies in the contest would be seized on as a proof of violence and usurpation, while similar acts on their own side would be excused by the opinion prevalent in Greece that every thing was allowable against a tyrant. Peisistratus was a chief of the latter kind. He had established, by illegal violence, the predominance of his party, and while that was predominant, his personal ascendancy was complete; and accordingly his enemies called him tyrant. His friends denied the charge, for the constitution was unaltered, and so far was he from overruling the ordinary magistracies, that he himself obeyed a citation from the Areiopagus on a charge of murder. But we must remember that it was an easy virtue to let the law take its

course, when he knew that it was wholly administered by his own friends; and he would probably have been less forbearing if he could have feared an important decision against him. As it was, he, once enjoyed the reality of power, and avoided, in great measure, the odium of usurpation. Grecian party warfare was generally unscrupulous; and the violence by which his ascendancy had been gained was too common a thing much to injure his character, at least among his friends. His sway was not, however, uninterrupted. He was twice expelled, and twice returned: at last he died at an advanced age, in the administration of Athens, having exercised it with great ability, and, in all his struggles, with unusual liberality and moderation towards his opposers. He encouraged learning and the arts; he is said to have founded the first public library known to the world, and first collected and digested the poems of Homer, which had been brought by Lycurgus into Greece, from the Grecian colonies in Asia where they had long been popular.

Hippias and Hipparchus, sons of Peisistratus, inherited the influence of their father. Their government, like his, was mild and steady, and successful in peace and war. Many good laws were passed, the taxes were lightened, and the forms of the constitution were adhered to: and it was under Peisistratus and his sons that Athens first became remarkable for the splendour of its public buildings. Hippias chiefly conducted the civil administration, while Hipparchus was employed in measures for enlightening the minds and cultivating the tastes of the citizens. For this end he invited to Athens the poets Anacreon and Simonides; and that he might extend a degree of instruction to those who, in an age when books were few and expensive, had neither means nor leisure for study, he erected in the streets and highways marble columns crowned with heads of Mercury, with short moral sentences engraved on the sides. But a power above the laws is a dangerous gift, and seldom fails to nourish, even in the happiest natures, a degree of insolent disregard to the feelings of others. Half the oligarchies and tyrannies of Greece were overthrown through outrages done to individuals by the rulers in the wantonness of power. Enraged at a denial which a degrading passion had impelled him to incur, Hipparchus allowed himself

publicly to insult the sister of the refuser. Harmodius, the injured man, engaged in his quarrel his friend Aristogeiton, and they plotted the death of both the brothers, and the overthrow of the government. Hipparchus was slain at the Panathenæa, but Hippas survived, and both Harmodius and Aristogeiton perished in the tumult. From this time forward the government of Hippas became jealous and severe. He renounced all trust in popularity, and endeavoured to secure himself by the death of any whom he suspected; while he provided a refuge, in case he should be expelled, by marrying his daughter to the son of the tyrant of Lampsacus, on the Hellespont. His tyranny lasted but four years after the death of his brother.

The Alcæonidæ, ejected by Peisistratus on his second restoration, were numerous and wealthy, and unceasingly watchful for an opportunity to return. The temple of Delphi having been burnt, they had contracted to rebuild it, which they had done with a splendour far beyond their agreement. Hereby they both increased their reputation, and secured an interest with the managers of the oracle, which they were suspected to have made yet firmer by bribery. However that might be, the responses given, on whatever subject, to the Lacedæmonians, always terminated with the command to liberate Athens; till at length, though bound by friendship and alliance to the Peisistratidæ, they were induced to succour their opponents. A small force being first sent into Attica was defeated, and the leader slain. But the Alcæonid party was gaining strength; the severities of Hippas drove numbers to join it: and Cleomenes, the Spartan king, advancing with a larger army, was joined by the exiles. Hippas lost a battle, and was besieged at Athens. Here he might have held out beyond the patience of the Lacedæmonians, but for the fear of internal revolt, which induced both him and his principal partisans to concert measures for removing their children to a place of safety. These were intercepted by the besiegers, and the fathers consented to surrender Athens and quit its territory in five days. They retired to Sigeum on the Hellespont, (B. C. 510.) having held the ascendant in Athens for fifty years since Peisistratus occupied the citadel.

The death of Hipparchus had been chiefly caused by revenge for a private

wrong: but nevertheless, on the overthrow of the tyranny, the slayers were honoured as the most deserving of patriots. Their statues were conspicuously erected in the Acropolis; their descendants had various immunities and privileges, including exemption from most public burdens; a song in their praise was regularly sung at all feasts and entertainments; and in all the works of the Athenian orators, if an example of the highest patriotism, and the greatest merit towards the commonwealth be wanted, the names first mentioned, are generally those of Harmodius and Aristogeiton.

The lead was now disputed in Athens between Isagoras and Cleisthenes, son of Megacles, the head of the Alcæonidæ. Finding the interest of his opponent superior among the rich and noble, Cleisthenes betook himself to cultivate the favour of the lower people, and by this having gained the ascendant, he made some changes in the constitution tending to render it more democratical. He opened public offices to all the citizens, and it was he who increased to ten the number of the wards, and enacted that fifty persons should be taken from each to serve in the council, which was henceforth frequently distinguished as the council of five hundred, or simply the five hundred.

For the recovery of his lost superiority, Isagoras placed his hope in Lacedæmon, then by far the greatest power in Greece. Since the conquest of Messenia, it had been first in the extent and richness of its territory, as well as in the military excellence of its population. Corinth, and many cities of Arcadia, were strictly bound to it in the sort of alliance common in Greece, where the weaker confederate was wont to furnish troops to be used at the discretion of the stronger: and it had effectively the command of all Peloponnesus, except the powerful and generally hostile state of Argos. But the Lacedæmonians had views beyond the peninsula, and were ever eager to interfere as mediators in the wars and seditions of all Grecian states. They had hitherto acted in such matters with a considerable show of wisdom and moderation, and sometimes very beneficially, as in overthrowing the tyranny of Hippas. But the end pursued was always to acquire a commanding influence for Lacedæmon, under the specious pretext of protecting the liber-

ties of Greece. Above all, their favourite policy was, in every city where they had the opportunity, to establish the ascendancy of the oligarchical faction, which then depending upon them for support, would keep the city in nominal alliance, and real subserviency. With such views, they readily listened to the solicitations of Isagoras, and the more so as Cleomenes was biassed in his favour by personal regards.

The sacrilegious murder of the partisans of Cylon had been the act of the Alcæonidæ, of which house were the now leading men of Athens. At the suggestion of Isagoras, Cleomenes required the expulsion of all descended from the murderers: the demand was backed by the power of Sparta, and had much support in the religious feelings common to Greece; and Cleisthenes with his principal partizans withdrew. But not content with this, and confident that no one would venture to dispute the will of the Spartan king, Cleomenes went with a small band of soldiers to Athens, commanded the banishment of 700 Athenian families, as concerned in the sacrilege, and then proceeded to abolish the council, and consign all the authority of the state to 300 of the friends of Isagoras. But Athens was not fallen so low as to endure this insolence of usurpation. The council refused to resign its authority, and the people flew to arms in its support. Cleomenes and Isagoras were besieged in the Acropolis, and on the third day it was surrendered on the terms that Cleomenes and the Lacedæmonians should be allowed to depart. Isagoras contrived to steal away among them, but his followers were cast into prison, and all condemned to death; the generally cruel spirit of Grecian party warfare being in this case embittered by great and just provocation. Cleisthenes and the exiles, immediately returning, resumed the direction of the commonwealth. A war with Lacedæmon seemed unavoidable, and they anxiously looked for any aid which might enable them to support it. The Persian empire had now extended over nearly the whole of Asia Minor; and the Athenians sent ambassadors to Sardis, the capital of one of its provinces, to propose an alliance. The satrap, or governor, asking the ambassadors who the Athenians were, and where they dwelt, when he had heard the answer, scornfully rejected the proposed alliance with so

insignificant a state, unless they would give earth and water to king Darius in token of subjection. The ambassadors complied; but on returning to Athens, their conduct was blamed, and their act disavowed.

Meanwhile Cleomenes entered Attica with a powerful army from Peloponnesus, fully bent on punishing the Athenians, and setting up Isagoras as tyrant; while the Bœotians and the people of Chalcis in Eubœa made a concerted invasion on the other side. Neglecting these, the whole force of Athens went against the more dangerous enemy: but when a battle was expected, the Corinthians withdrew their troops, refusing to co-operate in a war so unjust; and like sentiments being expressed by Demaratus, the brother king of Cleomenes, dissension ran high between the colleagues, and the army was hastily broken up. The Athenians, being now at liberty to chastise their other invaders, defeated the Bœotians, and the same day, passing into Eubœa, reduced the Chalcidians to submission, and exacted from them a tract sufficient to support a colony of 4000 Athenian families. Unable by their own strength to maintain the war, the Bœotians asked assistance from Ægina, an island in the Saronic gulf, which had early attained a wealth and consideration disproportionate to its extent, by the commercial activity and maritime skill of its inhabitants. This people had an ancient quarrel with Athens, and now, without warning, ravaged the coast. The Athenians were preparing for revenge, when their attention was diverted by news from Lacedæmon. The fraud had been discovered, by which the Alcæonidæ had procured the help of the Lacedæmonians against Hippias; and finding that the gratitude expected from the Athenians had been turned into enmity by the arbitrary violence of Cleomenes, and that Athens was rapidly growing in power and spirit, they began to wish the tyranny restored. But they had seen that, without obtaining the consent of the allies, they could not be sure of their support; a meeting therefore was called, and Hippias invited to be present; and here they laid open the arts, which had been used to persuade them to make war upon an old ally, complained of the ingratitude of Athens, and invited the assembly to concur in the restoration of the banished chief. But the Corinthians, dwelling on

the iniquity of the proposal and its inconsistency with the character assumed by the Lacedæmonians as liberators of Greece, prevailed on the assembly to reject it. Hippias returning to Sigeium went thence to Sardis, and persuaded the satrap Artaphernes to make war upon his country, that himself being restored to the sovereignty might hold it as a vassal of the Persian king. The Athenians on hearing this, sent ambassadors to Artaphernes, to dissuade him from following the suggestions of their exiles; but received for answer an imperious order to submit at their peril to Hippias; and refusing to obey, they thenceforth considered themselves as at war with Persia.

By the events which followed the expulsion of Hippias, the government of Athens had become at length substantially popular. All its former revolutions were but changes in the ruling portion of the nobility: sometimes, indeed, the weaker party called the people to its aid; but the people, though it might determine the struggle, gained little by it beyond the hope of better masters. No lasting security for good government was obtained, and any immediate improvement of administration depended on the personal character of the new rulers, and the degree in which they yet needed popular support against their beaten opponents. Such might again have been the result, if Cleisthenes had enjoyed his first victory undisputed; but by the strength of his enemies, and the determination of Cleomenes to set up an oligarchy with Isagoras for its chief, his cause was permanently identified both with that of democracy, and of Athenian independence. The middle and lower people, hitherto powerless through inexperience, inertness, and disunion, had numbers that might have made them superior both in votes of the assembly, and in trials of force: they wanted leaders whose personal influence could keep them united, whose political experience might direct their conduct, and who might be obliged, instead of using the people as instruments to serve a temporary purpose in raising a faction, to rest their hopes on their continued activity. Such leaders were the Alc-mæonidæ; and while they were bound to the commonalty by the strongest ties of common interest and danger, the other party of the nobles was broken and disgraced by its unsuccessful treason. Continually appealed to by their

present leaders, the people became versed in public affairs, and were henceforth practically, as well as legally, supreme. The result was increasing vigour and spirit in the government, and a great improvement in internal quiet and security. Though jealous and violent in troublous times, and sometimes hurried into acts the most foolish and iniquitous; though always defective as a means of discovering truth; the popular courts were honest in intention, and did justice between the rich and the poor, with an impartiality elsewhere little known in Greece: and of the value of this distinction, some notion may be formed from the atrocious cases, occurring in all the oligarchical republics, of oppression exercised with certain impunity by powerful individuals upon the weak. The faults of the Athenian government were many and great: but of its superiority to most in Greece, and of the willing acquiescence in it of all classes, there needs no stronger proof than this, that from the time of Cleisthenes, till its constitution was nearly fallen into decay, no instance occurs of a contention by arms within its walls, excepting only those occasioned in the close of the Peloponnesian war, by the external dangers of the commonwealth, and after that war by its temporary subjection to Lacedæmon.

CHAPTER IV.

Of Greece and its Colonies, from the first Persian Conquest of Ionia to the Defeat of Xerxes' Invasion of Greece, and the Establishment of Athens as a Leading State.

For a long time, the greatest part of Asia Minor was subject to the kings of Lydia, an extensive region, on the coast of which the Ionian colonies were situated. Cræsus, the last of the Lydian kings, an able and popular, but ambitious prince, had made tributary the Grecian cities of the Asiatic coast, and his power had become, to Greece itself, an object of fear, as his wealth and splendour were of wonder. His prosperity was not, however, to be lasting. In all ages, Asia has been remarkable for the sudden growth and rapid decay of mighty empires. When the Median monarchy, after overrunning most of the interior of Asia, was now giving way to the rising fortunes of the Persians*, Cræsus lent his

* An account of the early monarchies of Asia,

aid to prop the falling power, and incurred the vengeance of the conquerors. Cyrus, the Persian chief and founder of the empire, having overcome the Medes, marched against Cræsus, subdued his kingdom, and made him prisoner in his capital of Sardis. (B. C. 546.) He had before invited the Grecian cities to revolt, but they refused, and now, when they wished to submit to him on the same terms as formerly to Cræsus, he would listen to none but the Milesians; and sent an army, under Harpagus, a Mede, to reduce the others. Harpagus first attacked Phocæa, an Ionian town, early famed for maritime enterprise and skill. When hard pressed, the Phocæans feigned to listen to proposals of surrender, and took advantage of a suspension of arms to embark their households, and quit the city. Having sought in vain for a settlement among the Grecian isles, they resolved to sail for Corsica, where they had already a colony established. But first desiring revenge on the authors of their calamity, they surprised and slaughtered the Persian garrison of Phocæa; then sailed for Corsica, having called down curses on any of their number who should stay behind, and sworn that they never would return, till a lump of iron, which they cast into the sea, should appear upon the surface. More than half, notwithstanding, returned, unable to live out of their native land. The rest arrived in Corsica, and dwelt there for five years; till, by their piracies provoking an united attack from the Carthaginians and Tuscans, though victorious, they suffered such a loss in ships and men, that they were again obliged to quit their dwellings. The larger part went to Gaul, and there founded Massilia, now Marseilles, which, with the advantage of an excellent harbour for the vessels of that age, became a rich and powerful commonwealth, and extended its dominion widely on the Gallic coast, and even to some places on that of Spain.

The Teians being next attacked, followed the example of Phocæa, and, sailing to Thrace, founded there Abdera. The other cities, finding that their walls would not enable them to hold out singly, resolved together to risk a battle. Being defeated, they submitted to the conqueror on his own terms. The islands remained free, as the Persians had no navy. Har-

pagus proceeded through Lycia into Caria, and completed the conquest of Asia Minor.

Meanwhile, Cyrus conquered Babylon, which having done, he applied himself, with ability equal to his military genius, to order the government of his vast empire, and unite it, as far as possible, into one. On his death, he was succeeded by his son Cambyses, who conquered Egypt, and died there, in the eighth year of his reign, while vainly attempting further acquisitions in Africa; but not before he had given proof that his natural violence of character had been fostered by despotic power into actual madness. After a short period of confusion, the throne was occupied by Darius, the son of Hystaspes, a monarch whose attention was principally turned to improve the internal administration, and increase the revenues of the empire. But though not by inclination a warrior, it was necessary for Darius to find an enemy against whom he might employ the turbulent spirit of the military portion of his subjects, thus avoiding the contempt which, in Asia, has always been the lot of unwarlike sovereigns. Under pretence of revenging an invasion made a hundred years before, he turned his arms against the barbarians of Scythia, a wide waste region, including with Tartary, most of the present empire of Russia. He crossed the Hellespont, and advanced along the western coast of the Euxine sea, receiving the submission of all the nations in his way, till he passed the Danube, and entered Scythia. The Scythians had neither towns nor cultivated fields, but lived like the modern Tartars, in moveable camps, upon the milk and flesh of their numerous herds. Having nothing, therefore, which it was necessary to defend, they retreated before him, avoiding a battle, to which it was impossible to force them, being entirely cavalry. In a wilderness, and far from all supplies, the army suffered severely from want; it was obliged to retreat, and its retreat was harassed by a superior cavalry; and it was not without great loss and hardship that it reached the Danube. But though Scythia was not subdued, the bounds of the empire were widened by the submission of Thrace and Macedonia; and the expedition seems, on the whole, to have increased the power of Darius, and his reputation with his subjects.

The usual policy of Persia towards the Grecian cities of its empire, was in each to set up one of the citizens as chief, or

and especially of the Median and Persian empires, may be found in the seventh chapter of the Outline of General History.

tyrant, whose interest was then to keep his city in obedience to the king, on whom he depended for the maintenance of his authority. Histæus, the tyrant of Miletus, was high in favour with Darius, and had obtained, as a reward for service done in the Scythian expedition, the grant of a territory on the river Strymon, in Thrace; a very eligible situation for a Grecian colony, as it abounded with ship timber, and had silver mines. Miletus, which he governed, was the richest and most populous city of Ionia; and it was represented to Darius that, by means of his new colony, so favourably situated to gain both wealth and maritime power, he might be able to revolt, and unite against Persia the whole naval force of the Asiatic Greeks. To prevent this danger, it was pretended that the king had need of his advice and assistance at Susa, his capital; and thither he went, while the government of Miletus was committed to his kinsman Aristagoras.

About this time, there was a contest of factions in the rich and populous island of Naxos, and the democratical party being victorious, many of the wealthiest men were expelled. These applied to Aristagoras for aid, which he was inclined to grant, as knowing that, if he restored them, he would be able, through them, to govern Naxos. His own force, he said, was unequal to the enterprise; but he had influence with the satrap of the province, Artaphernes, the brother of Darius, and with the power which he commanded, their restoration would be easy. The exiles consented, and Artaphernes approving the proposal, a fleet was equipped of 200 galleys, with a land force in proportion; and Megabates, a Persian of the royal blood, was joined with Aristagoras in the command. A report was spread that the fleet was intended for the Hellespont; but the commanders having quarrelled, Megabates betrayed to the Naxians its real destination, and they were found prepared for defence. After a fruitless siege of four months, the armament quitted the island, having consumed the sums allowed by Artaphernes, and much of the private fortune of Aristagoras.

Aristagoras, sure of the enmity of Megabates, and justly fearing the resentment of Artaphernes for the failure of his promises, now expected the loss of his government, as the least evil which could ensue. He had already conceived the idea of revolt, when a messenger coming from Histæus confirmed his

wavering resolution. That chief was uneasy in his detention at Susa, which he now began to see was meant to be perpetual, and he resolved on the dangerous measure of exciting a revolt among the Greeks of Asia, in the hope that he would certainly be sent to quell it, and might thus return to Miletus. Aristagoras assembled his friends, and laid before them his own sentiments, and the message of Histæus; and having obtained their approbation, he proceeded to call an assembly of the people, in which he resigned the tyranny, and proclaimed the re-establishment of democracy. The armament from Naxos was encamped at Myus, under the command mostly of the tyrants of the several cities. The commanders were suddenly arrested by a Milesian commissioner, sent for that purpose, and were given up to the people of their respective cities. Most of them were banished, but Coes, the tyrant of Mitylene, was put to death. Democracy was everywhere established, and all Ionia and Æolis engaged in the revolt. (B. C. 500).

Meanwhile, Aristagoras went to ask assistance from Greece, and first from Lacedæmon. But the cautious elderhood who directed that city refusing to engage in a war so distant and dangerous, he next applied to Athens, where he arrived at the moment when the haughty command of Artaphernes, to restore the tyranny of Hippias, had filled the citizens with anger and alarm. Miletus, and many others of the endangered cities, were colonies of Athens; and anxiety for their fate united with resentment and with the lavish promises of Aristagoras, to induce the Athenians to grant his request. Twenty ships were voted to assist the Ionians, and they arrived at Miletus with five besides, from the Eretrians of Eubœa. The combined fleet sailed to Ephesus, and the forces debarking, marched to Sardis, a distance of about sixty miles. Artaphernes was taken by surprise, and fled into the castle, and the Greeks, entering the town unopposed, fell to plunder. But a house being set on fire, the flame spread rapidly through a town mostly built of timber and reeds. The inhabitants were driven by the conflagration to assemble in the market, and in the bed of the torrent Pactolus, which ran through it, in such numbers, that they found themselves strong enough for defence; and the Greeks retiring to mount Tmolus, at night pursued their retreat towards their

ships. To avenge the insult, troops were collected from the greater part of Asia Minor, and the Persian army, following the enemy, found him under the walls of Ephesus. A battle ensued, in which the Greeks were entirely defeated, with the loss of many of the principal commanders, and the dispersion of the army. The Athenians now recalled their ships, and refused any further part in the war.

The Ionians pursued the war by sea, and, sending thither a fleet, engaged in their alliance Byzantium, and the other towns about the Propontis; and thence going southward, the fleet was no less successful with the cities of Caria. At the same time Onesilus, king of Salamis, in Cyprus, had persuaded all that island to revolt from Persia, except the city of Amathus, which he besieged. Being informed that a Persian force was coming against him, he sent to ask assistance from the Ionians. They sent their fleet, but it did not arrive till the hostile army had been landed. Two battles followed on the same day—by land between the Cyprians and Persians, and by sea between the Ionian fleet and that of the Phœnicians, who were subject to Persia, and chiefly composed its naval power. The Ionians were victorious; but by land the Cyprians were defeated, and Onesilus slain, and the island was quite reduced to subjection. Meantime Ionia and Æolis were overrun by the superior land force of the enemy. One Persian army, after two great victories, was surprised in a defile, and destroyed by the Carians; but the other divisions were more successful, and after reducing most of Æolis, with the important town of Cuma, and taking Clazomenæ in Ionia, Artaphernes concentrated his forces, to besiege Miletus. Aristagoras, now despairing of success, and knowing himself marked for vengeance by the Persians, resolved to quit the city, and sailed to Myrcinus, the colony of Histæus. Here he was killed, in besieging a Thracian town.

Histæus had been dismissed from Susa, and sent to Sardis to assist in quelling the revolt; but finding himself suspected, he fled into Ionia, and passed to Chios. The Milesians refused to receive him, but he found friends in Lesbos and at Byzantium, from which places he exercised piracy, both against Greeks and Persians. At length, in a descent on Asia, he was taken, and being sent to Sardis, was there crucified.

Miletus was besieged by land and sea, and the Panionian assembly being con-

vened, determined to make no attempt by land, but, collecting all the ships of the confederacy, to hazard a sea-fight. The assembled fleet was of 353 triremes, long sharp-built galleys, carrying each nearly 200 men. The number of the hostile ships is stated at 600, being chiefly Phœnician, but partly also Cyprian, Cilician, and Egyptian. The Greeks appear to have been already unequalled for skill and boldness in naval action, and, with all their superior numbers, the Persian leaders feared a battle. They had with them many Grecian tyrants expelled at the beginning of the revolt, and, through them, they secretly offered to each squadron promises of impunity, if they would desert the common cause, and threats of utter destruction to their cities if they refused. The rest stood firm, but the Samian commanders, discouraged by the disorder of their own fleet, and the vast resources of the enemy, were prevailed on to comply. When the battle was beginning, they gave the signal of flight. Eleven ships out of sixty disobeyed, and stood their ground, in reward for which the names of the captains were afterwards recorded on a pillar by their commonwealth. The rest fled, and were followed by many others. The Chian squadron of 100 ships fought gallantly against an overwhelming force, but the battle was irrecoverably lost. Dionysius, the Phœcæan commander, had but three ships, so small was the remnant of that state. With these he took three vessels from the enemy, and, when the fight was lost, returned no more to Phocæa, but, sailing to the coast of Phœnicia, made prize of many merchant-ships, and thence proceeded to Sicily, whence issuing, he plundered the Carthaginians and Tuscans.

The Persians now pressed the siege of Miletus, and took it by assault in the sixth year of the war. Most of the men were killed: the rest, with the women and children, were led to Susa, and presented to Darius, who settled them at Ampe, on the Tigris, near where that river falls into the Persian Gulf. The rich vale of Miletus was divided among the Persians. Ææces, the tyrant of Samos, was restored to his government; but the Samian people had not approved the treachery of their admirals, and a large proportion of them emigrated to Sicily. The islands Chios, Lesbos, and Tenedos, submitted at the approach of the Persian fleet, and at the same time the army proceeded against the Ionian towns. All the

threats of the Persian leaders were fulfilled: the handsomest boys were made eunuchs; the most beautiful girls carried as slaves to the king; the towns, with the temples, were burnt. The devastation was spread to the shores of the Hellespont, of which the Persian army ravaged the Asiatic, and the Phœnician fleet the European side. After this, the Persian government turned its attention to the internal regulation of the country, with a liberality as conspicuous as its cruelty in avenging the revolt. Advising with deputies assembled from the cities, Artaphernes made many useful regulations to prevent the petty warfare so universal among the Greeks, and to establish a course of law by which all disputes between cities were to be determined. At the same time, he appointed the tribute from each, which was not heavier than before the war; and the same assessment remained in use long after.

In the second spring after the reduction of Miletus, Artaphernes was recalled, and Mardonius succeeded him, a young man of high rank, who had lately married a daughter of Darius. He brought with him a large army and powerful fleet, avowedly to punish Athens and Eretria for the burning of Sardis. To acquire popularity among the Ionians and Æolians, and gain their willing service, he deposed all the tyrants, and established democracy in the Grecian cities: a measure very opposite to the usual policy of Persia. Having received from them a considerable reinforcement, he crossed the Hellespont. Thrace was already subject to the Persians, excepting some hordes of savage mountaineers; and Macedonia had formerly submitted to deliver earth and water, and now, when tribute was demanded, did not venture to refuse. But the fleet, in doubling the promontory of Athos, lost, by a storm, 300 ships, and above 20,000 men; and the army suffered much by a night attack from the Brygian Thracians, in which Mardonius himself was wounded. The Brygians were attacked and subdued; but the season was then so far advanced, and the fleet so shattered, that it was thought best to return, and winter in Asia.

The following year heralds were sent into Greece, to demand of every city earth and water in token of subjection. Many towns on the continent obeyed, and most of the islands. The Athenians and Lacedæmonians indignantly refused,

and disgraced their refusal with a cruel violation of the law of nations: the heralds being, at one place, thrown into a cavern, in the other into a well, and told there to take their earth and water. Among the cities which submitted were Thebes and Ægina. Ægina was an ancient enemy of Athens, and the Athenians immediately sent ministers to Sparta, to accuse the Æginetans of treason to Greece. Lacedæmon had recently been at bitter enmity with Athens, but, in the common danger, it was rejoiced to find that city disposed to unite with it in vigorous defence. Cleomenes, with his usual violence, went himself to Ægina, for the purpose of seizing the principal authors of the submission. He was opposed and prevented, but not without a remarkable acknowledgment of the authority of Lacedæmon, since it was answered that the Æginetans would have obeyed, if they had been assured that he was properly authorised by his commonwealth.

During the absence of Cleomenes, his colleague, Demaratus, having long been at variance with him, endeavoured to excite the leading men against him. There were circumstances attending the birth of Demaratus, which threw suspicion on his legitimacy, and Cleomenes encouraged and supported Leotychides, the next in succession, in claiming the crown; the question was referred to the Delphian oracle, and Cleomenes bribed the Pythia to declare his rival illegitimate. Demaratus was deposed, and soon after fled into Persia. Leotychides being appointed in his place, accompanied Cleomenes to Ægina, and that state submitting to their authority, ten of the principal men were sent to Athens as pledges of its fidelity to the common cause.

Cleomenes afterwards leading an army against the Argians, surprised and routed them with great slaughter. Many took refuge in a sacred grove surrounding a temple, which, as such groves were highly venerated, Cleomenes hesitated to profane. Enticing out about fifty successively, by the promise of ransom, he put them to the sword, and when the rest, discovering his treachery, refused to come out, he then fired the grove, and burnt them all. In the battle and massacre, so large a portion of the Argian people perished, that the slaves, overpowering the remainder, governed the city, till at length, the sons of those who had been slain growing up to manhood,

they were expelled from Argos, but maintained themselves awhile in Tiryns. Cleomenes, it was thought, might have taken Argos, but his caprice led him another way. Dismissing the rest of his army, he went with a chosen escort to sacrifice in the temple of Juno, near Mycenæ. The high priest remonstrating that such an intrusion was unlawful in a stranger, Cleomenes caused him to be scourged by the Helots, performed the sacrifice himself, and returned home. Not long after, evidence was produced of his having corrupted the Pythia, and, in his alarm, he fled into Thessaly; but, thence returning into Peloponnesus, he obtained the support of a party in Arcadia, and was there exciting war against his country, when his friends in Lacedæmon, regaining the ascendant, recalled him to the throne. He did not long enjoy it, his habitual extravagance being at length converted into positive madness. He was placed in confinement, when obtaining a sword from a Helot who guarded him, he cut himself piece-meal.

The suicide of Cleomenes was generally attributed to divine vengeance for some one of his many crimes. By most of the Greeks it was ascribed to his sacrilegious collusion with the Pythia; by the Argians to the cruel and treacherous massacre of their fugitives; but more confidently to the burning of the sacred grove, the violation of the temple of Juno, and the outrage to the priest. The Lacedæmonians imputed it to his frequent drunkenness; a vice at Sparta rarely seen and highly reprobated.

The restoration of the Æginetan hostages being agreed to by Lacedæmon, was still denied by Athens. A war ensued. The oligarchical faction was prevalent in Ægina, and Nicodromus, a leader of the opposite party, had been expelled. Nothing was more common in Greece than for the weaker in civil strife to connect themselves with the enemies of the state. According to a plan concerted with the government of Athens, Nicodromus, with his friends in the island, seized on that called the old town of Ægina. The Athenians, unequal in naval force to the Æginetans, had borrowed from Corinth twenty ships. These came a day too late; the project failed; and Nicodromus, with many of his friends, escaped to Attica, where, being settled on the promontory Sunium, they made continual predatory

war upon the Æginetans of the island. The prevailing party took a cruel revenge for the attempt which had been made, and 700 citizens at once were executed. They were afterwards defeated by the Athenians, first by sea, and then in a descent on the island.

While Greece was in the state of turbulence which has been described, Persia was again preparing for its conquest, and for the chastisement of Athens and Eretria. Mardonius was recalled, and his command given to Artaphernes, son of the former satrap, joined with Datis, a Median nobleman probably more experienced. To avoid the circuitous and dangerous route by Thrace and Macedonia, it was determined to cross the Ægean, reducing the islands on the way. Naxos, where the Persians had before been foiled, was first attacked; the inhabitants fled to the mountains, and the town, with its temples, was burnt. The other islands submitted, and gave hostages, till the fleet arriving at Carystus, in Eubœa, the Carystians refused, but were obliged to yield by the investment of their city, and the ravage of their land. The Eretrians were now assailed, who, applying to Athens for succour, the 4000 Athenians who had been settled on the territory of Chalcis, were ordered to assist them. But the Eretrians were divided and disheartened: some were for flying to the mountains, others were inclined to betray the city; and Æschines, a principal citizen, seeing no hope of defence, advised the Athenians to reserve themselves for the protection of their native country. They crossed into Attica. The Persians formed the siege. For six days Eretria held out, but on the seventh was betrayed by two of the leading citizens. The town, with its temples, was burnt, and the inhabitants made slaves. The Persians, now masters of Eubœa, crossed into Attica, and landed, at the suggestion of Hippias, on the narrow plain of Marathon. (B. C. 490.)

Athens had a commander equal to the emergency, in Miltiades the son of Cimon. His uncle, Miltiades the son of Cypselus, being invited by the natives of the Thracian Chersonese to found in it an Athenian colony, which might assist in their defence, had agreed to the proposal, and had been made tyrant of the Chersonese. On his death, as he left no children, his authority passed to his nephew Stesagoras. He also died, and in the

hope of succeeding him, Miltiades, his younger brother, went from Athens to the Chersonese. Miltiades had not, like Stesagoras, an interest established during the life of his predecessor, and the Chersonese was not by law an hereditary principality: but by a mixture of fraud and force, Miltiades secured the tyranny, and strengthened himself in it by keeping five hundred guards, and by marrying the daughter of Olorus, a Thracian prince. When Darius marched against the Scythians, Miltiades submitted to him and followed in his train, and was left with the other Grecian chiefs of the army to guard the bridge of boats by which the Persians crossed the Danube. He then proposed to break up the bridge, and suffering the king and army to perish by the Scythians, to secure Greece and deliver Ionia from the Persian yoke. His suggestion was rejected, not for its treachery, but because Persia was to each of the tyrants his surest support against the spirit of freedom in the people; but it has met with applauders among Grecian writers, generally ardent patriots, but somewhat lax moralists. Soon after Miltiades was expelled by the Scythians, but recalled on their retirement by the people: but he knew himself obnoxious to the Persians, and when on the reconquest of Ionia their fleet approached Thrace he fled to Athens. The Athenian laws were severe against tyrants, even of foreign states; and Miltiades on arriving was tried for his life; but he won the favour of the people so far, that he was not only acquitted, but appointed one of the ten generals who regularly directed the armies of the state; and so conscious were his colleagues of his superior ability, that four of them made over to him their days of chief command.

The generals being equally divided in opinion, whether to risk a battle or defend the city, the decision rested with the polemarch Callimachus. Miltiades pointed out to him that a siege by so powerful an enemy would divide and unsettle the minds of the people; that whoever had any leaning towards Hippias would be determined in his favour; that others, through despondence, would propose surrender, and make their own peace by betraying the city; but that, while all were yet united and hopeful, they might win a battle, an assurance which Miltiades was the better able to give, being acquainted with the Persian

tactics as well as the Grecian. Callimachus was persuaded, and the army marched to Marathon, where, on his own day of command, Miltiades led it into action. The Athenians were joined by the whole strength of Platæa, a little commonwealth of Bœotia, which had thrown itself on their protection against Thebes, and had ever since been their most faithful ally. The combined force may have amounted to about 14,000 heavy-armed troops, with at least an equal number of light-armed: the Persian army is stated at 100,000 men.

Of the infantry in the invading army, the Persians and Sacæ only were good in close fight, and these were inferior to the Greeks in the length of their spears, the goodness of their defensive armour, and the firmness of their array. The rest of the foot were only to be feared for their skill in using missiles, but the cavalry was numerous and excellent. The ground was admirably chosen for the Athenians. In the hills their heavy phalanx would have been unable to keep its ranks unbroken and available against the archery of Asia; in a wide plain it would have been surrounded by numbers, and harassed without the power of retaliation by the horse; but in the narrow plain of Marathon the ground favoured the movements of the phalanx, while its small extent precluded the evolutions of the hostile cavalry, and obliged all to receive the Greeks in front, instead of annoying them on the flanks or rear. Still, confined as was the space, Miltiades could only present a front equal to that of the enemy by weakening some part of his line. He weakened the centre and strengthened the wings, and then, to leave as little opportunity of action as possible to the enemy's horse and archery, he ordered the troops to advance running, and engage at once in close fight. The conflict was obstinate. The Persians and Sacæ, who were in the centre, broke the weak centre of the Athenians, and pursued it up the country; but the rest were routed by the Athenians of the wings, who being immediately recalled from pursuit, and led against the conquering Persians, defeated them, and pursued them to their ships. Seven ships were taken on the shore, and the invaders lost 6400 men, the Athenians and Platæans only 192, among whom, however, was the polemarch Callimachus, with many other eminent officers.

The Persian army on its embarkation sailed immediately towards Athens, hoping to surprise it during the absence of its defenders; but Miltiades guessing their design made a hasty march, and arrived in the city before the enemy was in sight. The invaders now returned to Asia, carrying with them their Eretrian prisoners, who were sent to Susa. Darius had borne them bitter enmity for the burning of Sardis; but when he had them at his mercy he treated them with considerable humanity. According to a favourite practice of his, he established them as a colony on an estate of his own, where they were long after distinguishable by their Grecian speech.

The Athenians on the fall of Eretria had applied to Lacedæmon for aid, which the senate promised, but alleged a superstition which prevented its being sent till after the full moon. They then dispatched 2000 men, who marched with such haste to atone for the apparent slackness of their commonwealth, that they arrived in Attica on the third day. They were nevertheless too late for the battle, but they went to Marathon to see the dead, and departed giving due praise to the Athenians, as the first to stop the victories of Persia. Herodotus remarks that "the Athenians first of the Greeks advanced running on their enemies, and first endured the sight of the Median dress and the men who wore it; for hitherto the very name of the Medes had been a terror to Greece."

Miltiades now rose to the utmost height of popularity and influence, inasmuch that when he requested a fleet of seventy ships without declaring how he meant to employ them, but merely promising that he would bring great riches to Athens, the people readily agreed. He led them to the isle of Paros, under the pretence of punishing its people for their compelled service in the Persian fleet, but really to revenge a personal injury of his own. He demanded one hundred talents as the price of his retreat, but the Parians refused, and resisted him bravely, and in an attempt to enter the town he received a wound, and was obliged to withdraw his army. On his return he was brought to trial for his life by Xanthippus, a man of high consideration, on account of the failure of his promises made to the people. His wound disabled him from defending himself, but he was brought into the assembly on a bed, while his friends defended him, principally by recalling his former

services. The memory of these, with pity for his present condition, prevailed on the people to absolve him from the capital charge; but they fined him fifty talents, about 12,000*l*. He died soon after by the mortification of his wound, but the fine was paid by Cimon his son.

The treatment of Miltiades has been with little reason alleged as a gross instance of popular ingratitude. In truth, the most blameable act of the Athenians on this occasion is one which can only be excused by the fervour of their gratitude—the entrusting an armament entirely to the pleasure of a man who, however eminent as a warrior, seems to have given little proof of probity or moderation. His attack on Paros was an atrocious abuse of public authority to the gratification of individual revenge; and it would have been most unjust that such misconduct should go unpunished; though it is to be feared that the popular resentment was excited less by the iniquity committed than by the failure of the promised riches. With respect to the fine, it seems little likely, considering the enormous wealth of Cimon, that it could materially injure either him or his father; and it was probably owing to gratitude and compassion that Miltiades escaped a heavier punishment, which his recent conduct certainly deserved.

SECT. III.—Darius's anger against Athens rose yet higher when he heard of the defeat at Marathon. He ordered to be made ready a mightier armament for the conquest of Greece, and for three years all Asia was disturbed, with warlike preparation. But happily for mankind, there is generally a limit to the growth of empires formed by conquest on passing which they either fall to pieces, or at least become feeble through the want of a steady control over the distant provinces. These were to the successors of Darius a source of weakness more commonly than of strength; since, though they might swell the royal armies with lukewarm or doubtful adherents, they were ever liable to revolt; while the Persian governors were frequently encouraged, by the remoteness and magnitude of their commands, to conduct themselves as independent princes rather than as officers under a common master. The first symptom that the empire had reached its greatest height was the revolt of Egypt, which happened in the fourth year after the battle of Marathon

and divided the attention of Darius with the purposed conquest of Greece. While preparing for both objects, he was diverted by the contending claims urged to the succession by his eldest son Artabazanes, and Xerxes the eldest born to him, after his accession, of Atossa the daughter of Cyrus. After some delay, he decided in favour of Xerxes; but he died before completing his preparations against either enemy.

Xerxes succeeding Darius, in the second year brought Egypt to submission, and then resolved on the invasion of Greece. To this he was stimulated by Mardonius, and by many Grecian refugees, particularly the Peisistratidæ. Four years passed in preparation, and in the fifth he moved towards the Hellespont, with an army gathered from all Asia, between the borders of India and the Mediterranean. A bridge was formed of ships across the Hellespont, a difficult undertaking, from the breadth of the strait and the rapidity of the current; and when this was broken by a tempest, Herodotus tells us that Xerxes, in the madness of absolute power, commanded that the workmen should be all slaughtered, and the sea scourged for disobedience to its lord. Another being made, the army passed over, and seven days and seven nights were occupied unceasingly in its passage. The foot is stated at 1,700,000 men, the horse at 80,000. Some time before, to avoid the dangerous navigation round the promontory of Athos, where the fleet of Mardonius had been ruined, a canal had been dug across the isthmus which joins that mountain with the mainland; a work of which the enormous labour and expense appeared so far to exceed the utility, that it was thought to have been chiefly done as a proof and memorial of Xerxes's power.

The army advanced, unresisted, through Thrace and Macedonia. Every Grecian city on its way had been commanded to prepare it a meal in the most splendid manner, and many towns were almost ruined by the expense. The fleet moved along the coast to the Thermaic bay, where it was rejoined by the land force; and while the armament paused here, the heralds returned, whom Xerxes had sent to demand earth and water from the cities of Greece. Of those who gave it, the most considerable were the Thessalians, and the Thebans, with all the Bœotians, except those of Thespiæ and Platæa. To Athens and Sparta no heralds were sent, on account of the murder of those sent

by Darius. The atonement demanded for this crime, by the religion of the age, gave occasion to a splendid instance of patriotism. Proclamation being made in Lacedæmon, that there was need of some to die for the commonwealth, Spertias and Boulis, two noble Spartans, offered themselves as the sacrifice, and were delivered to the Persians. Offers were made to them of high preferment, if they would enter the royal service, but they refused, and being brought to the king, they declared that they came to pay the penalty of murder for the Lacedæmonians. Xerxes replied, that though the Lacedæmonians had broken the universal law of nations, by murdering heralds, he would not imitate the cruelty he abhorred, nor would he take the lives of two individuals, as a satisfaction for the national guilt. He accordingly dismissed them, and they returned home.

Alarm was great among the Grecian states which had refused submission. The Athenians consulted the oracle at Delphi, and received a most threatening answer. Sending again, to beg for one more favourable, they received an ambiguous answer; in a part of which they were told, that when all else was destroyed, the wooden wall might preserve them. Some interpreted this of the Acropolis, which had been anciently surrounded by a palisade; others, of the navy. A young man, by name Themistocles, had recently become a leader in Athens. When it was proposed to distribute to every citizen ten drachmæ (a silver coin about ten-pence) from the produce of the silver mines at Laureium, Themistocles had prevailed on the assembly to reject the proposal, and to spend the money in building ships for the war with Ægina. These were now ready, and he urged his countrymen to build more, and to rely for safety on their naval power; and the adoption of this counsel saved Greece. At a meeting of deputies from all the cities which had refused submission to the invader, a general reconciliation was effected of all quarrels, and particularly of that between Athens and Ægina. Two embassies were sent, the one to invite the concurrence of Argos, which was refused, whether from fear or from jealousy of Sparta; the other to Gelon, tyrant of Syracuse in Sicily, and then the greatest Grecian potentate.

Gelon was of a noble family in Gela, a Rhodian colony in Sicily. He had been of the guard of Hippocrates, tyrant

of Gela, who conquered many neighbouring cities; and had gained the highest rank in his service, by great proofs of warlike ability. When Hippocrates was killed in battle, Gelon was left guardian of his children. While pretending to watch over their interests, he secured the tyranny to himself. After this, in a party contest in Syracuse, the great landholders being expelled, Gelon undertook their restoration. It is probable that he had gained a character for equity and moderation, as well as for ability; since the people of Syracuse, at his approach, agreed that he should settle the differences between themselves and their opponents, and should himself become chief of Syracuse. Henceforth he neglected Gela, and applied himself entirely to increase the more powerful city; and his measures for this purpose have, to a modern eye, the appearance of almost incredible violence. He transported to Syracuse the whole population of Camarina, and more than half that of Gela; and having reduced to a surrender the Megarians of Sicily, he made citizens of Syracuse the rich and powerful men who had been the authors of the war, while the commonalty were sold for slaves, on the express condition that they were to be carried out of Sicily. Yet they had borne him no ill will, and expected from him no evil; but he seems to have been, by temper and policy, adverse to democracy; and he probably was unwilling to introduce into his city men who, adding little to its strength or riches, would yet expect equality as citizens, and who might also bring into it the seeds of dissension, through enmities before existing with their richer countrymen. Such seems the likeliest account of his motives; but the transaction was most unjust and cruel, and forms a deep stain on the memory of a chief whose administration was generally able, and, at least by policy, beneficent. Syracuse, however, prospered greatly under him, inasmuch that when the ambassadors came to ask succour against Persia, he offered 200 triremes, and a land force of 20,000 heavy armed foot, and 2000 horse, besides archers, slingers, &c. He required, however, the chief command of the confederate forces, but afterwards lowered his demand, and offered to take it either by land or sea, allowing the other to the Lacedæmonians. The proposal was refused, and he did not join the league.

The Thessalians had at first been willing to join the Grecian confederacy, provided their territory were defended; and 10,000 heavy armed foot being sent into Thessaly were joined by the powerful cavalry of that province. But the Grecian commanders, thinking themselves unable to defend the passes, fell back on the southern districts, and the Thessalians not only submitted to the invader, but served him actively. The Greeks now chose for defence the narrow pass of Thermopylæ, the only tolerable outlet southward from Thessaly: and here were posted rather more than 5000 regular troops, under the Spartan king Leonidas, the brother of Cleomenes, to maintain the passage till the whole strength of the different states could be sent out; while the combined fleet of 271 triremes, besides smaller vessels, was assembled in the neighbouring road of Artemisium in Eubœa. Several attempts were made by the Persians to force the pass; but they were always repulsed with great slaughter, the narrow space not letting them profit by their numbers, and exposing them without defence or escape to the superior skill and steadiness of the Greeks, and the irresistible onset of their heavy phalanx. At length Xerxes was told of a path by which troops might be led across the mountains, and sending round a strong detachment to attack the Greeks in the rear, while his main army advanced on their front, he ensured their destruction. It was now impossible to stop the enemy, and an ordinary character would have thought it useless to sacrifice the lives of himself and his men, where no immediate military object worth the loss could be gained. But Leonidas saw that the greatest danger to Greece was in the terror occasioned by inequality of force, which disposed each state to seek its particular safety by deserting the common cause, or at least to neglect the general defence in order to provide for that of its own territory. Nothing was so likely to obviate this as the enthusiasm which might be excited by a great example of self-devotion; and his resolution to give such an example was confirmed by an oracle declaring that either Sparta or her king must perish. Dismissing, therefore, the rest of his army to serve their country with better hope elsewhere, he retained the 300 Spartans who were with him. The Thespians, in number 700, probably the

whole force of the little commonwealth, declared themselves resolved to share his fate; and he detained the 400 Thebans against their will, as hostages for the doubtful faith of their countrymen. The army would probably be more than doubled by the light-armed slaves and Helots, who, however, were of little value as soldiers. With this scanty force the Greeks advanced to meet the enemy, and fighting like men whose only object was to sell their lives as dearly as possible, they made vast slaughter, and had the advantage till the Persian detachment came up in their rear; they then retreated to a hillock, and forming on the top, continued the struggle; when their spears were broken fighting with their swords, and, if these failed, with their hands and teeth, till the Spartans and Thespians were all slain to a man. The Thebans had been obliged to fight till their companions retreated to the hillock, but then they surrendered in a body. This is well-nigh the only occasion on which the petty state of Thespiæ becomes conspicuous in history, whereas Thebes was long great and flourishing, and at one time the predominant power in Greece; but all the bloody laurels of Thebes would be well exchanged for this one act of patriotic devotedness on the part of Thespiæ.

When the Persian fleet appeared at Artemisium, many of the Greeks, alarmed at its strength, had been inclined to retreat: but the Eubœans, not without the aid of bribery, persuaded them to remain. Themistocles, the Athenian admiral, received from the Eubœans 30 talents, about 7000*l.*, with part of which he brought over to his wishes the Lacedæmonian and Corinthian commanders, keeping the larger portion to himself. Three battles were fought with no decisive result, but generally in favour of the Greeks; and the Athenians, who had at first supplied 127 ships out of 271, and afterwards added 53 more, won the highest praise in every battle. Besides, the fleet of Xerxes, which had before suffered severely off Mount Pelion in Thessaly, was here again overtaken by a storm, which destroyed many vessels. But on hearing of the defeat at Thermopylæ, the Grecian fleet was withdrawn, and the Persians took unresisted possession of Eubœa. Before leaving the island, Themistocles erected stones at all the watering-places, with inscrip-

tions reproving the Ionians for assisting the invaders of their mother country, and calling on them either to desert the armament, or if that were impossible, at least to be slack in their service. By this he hoped either to influence the conduct of the Ionians, or, failing in this, at least to make them suspected, and thus to take from the enemy the effective service of an important part of his naval force.

The Phocians were resolutely hostile to Xerxes, chiefly through hatred to the Thessalians; and now the Persian army advancing through Phocis, with the Thessalians for guides, laid waste the country with fire and sword, till it entered Bœotia, where it was received as in a friendly land. A detachment was sent against Delphi, chiefly for the great wealth contained in the temple. Alarmed at its approach, the Delphians consulted the oracle what should be done with the sacred treasure, but the answer was that they should not move it, for the god could protect his own. They then sent over their wives and children into Achaia, and themselves took shelter among the heights of Parnassus, and in what was called the Corycian Cave. The Persians on their approach were attacked with a violent storm and with rocks rolling down on them, and when they were thrown into consternation, the Delphians sallying forth completed their defeat, and pursued them with great slaughter towards Bœotia. Many prodigies are said to have happened; a report produced, as we may suppose, partly by the imagination both of the defenders and assailants, excited by the reputed sanctity of the place, and partly by the arts of the priests employed for the encouragement of the one party and the intimidation of the other. The storm was probably natural, and the rolling down of rocks the act of the Delphians on the heights.

The councils of Lacedæmon were directed by a spirit very different from that of Leonidas. Instead of advancing to the borders of Bœotia to protect their allies, the Peloponnesians were fortifying the isthmus, in the hope that themselves might thus be preserved, though all the rest became a prey to the invader. If the Athenians had acted in a like temper of shortsighted selfishness, all Greece would have been enslaved. They had alone repelled a former invasion, but the present was too powerful;

and, unable otherwise to save the city, they would have made a separate peace. Deprived of the Athenian squadron, which was more than half the fleet, the Greeks would have been unable to keep the sea; and either the defence of the isthmus must have been given up and the troops dispersed to their respective cities, when there would have been no army to oppose the Persians in the field; or else the cities would have been successively taken by the fleet of Asia, while the best part of the population was absent. But the Athenians, when they found that, in consequence of the desertion of their allies, they could not preserve their city unless by submission, immediately resolved to abandon it. The fleet from Artemisium was assembled at Salamis to assist in their removal; their wives, children, and servants were transported to Salamis, Trœzen, and Ægina, while the able-bodied men were mostly serving in the ships; a few only were left behind, principally poor men, who were unable to support themselves in a foreign state, and some who conceived the wooden wall in the oracle to be spoken of the Acropolis. The Persians advanced on Athens, after burning Thespiæ and Platæa: they entered the city, but the few Athenians in the Acropolis made an obstinate defence, rejecting all the offers held out by the Peisistratidæ to induce their surrender. At length, with great difficulty, the citadel was taken and burnt, and the defenders slaughtered.

This news alarmed the Greeks in Salamis so much, that many of the commanders were about to make a hasty flight without awaiting the general determination; and the rest being assembled in a council of war, it was resolved to retreat to the Isthmus, and there expect the enemy. As Themistocles was returning to his ship, he was met by Mnesiphilus, an Athenian officer, who, on hearing the issue of the conference, exclaimed that Greece was lost if such a counsel were adopted; for the allies, if now allowed to retreat, could no longer be kept together, but would be scattered to their several cities. The suggestion falling in with the opinion of Themistocles, induced him to return to the Spartan Eurybiades who commanded in chief, and pressing on him with many additions the arguments of Mnesiphilus, he persuaded him to call back the council. He now urged the commanders to remain, both

on account of the advantage which the narrow Strait of Salamis gave to the Greeks, inferior as well in the speed as in the number of their ships; and also because by so doing they would preserve Megara, Salamis, and Ægina, with the Athenian women and children deposited in the latter places. When he found them still obstinate, he declared that the Athenians, if their feelings and interests after all they had done were so little regarded, would abandon the armament, and taking on board their families would seek a settlement elsewhere. This threat prevailed, and it was agreed to remain; but at the approach of the enemy the Peloponnesians again were eager to depart and provide for the defence of their own territories; on which Themistocles, to prevent the mischiefs he foresaw, and partly, also, with the double policy which marked his character, to secure to himself, in case of defeat, an interest with the conquerors, sent private information to the hostile commanders of the flight which was meditated by the Greeks, and advised them to guard against it by occupying both ends of the strait between Salamis and the main land.

Aristeides was an Athenian, of singular fame for integrity. He had been opposed in politics to Themistocles, through whose influence he had been condemned to the temporary banishment called ostracism, from a Greek word signifying a piece of earthenware, on which the votes were written on such occasions; an infiction imputing no crime and conveying no reproach, but merely devised as a safeguard to the democracy against excessive influence or popularity in any citizen, however acquired. The only source, from which a dangerous ascendancy could arise to Aristeides, was the unbounded reverence paid to his virtues; but this was enough to produce his ostracism, when urged on a jealous people by his able and unscrupulous opponent. He was now in Ægina, and hearing that the Persians were preparing to beset both ends of the strait of Salamis, he made his way to that island, and calling out Themistocles from the council where the debate on retreat was still pending, he told him what had taken place. Many of the commanders disbelieved his tidings, till they were confirmed by a Tenian ship (from Tenos, an island in the Ægean) which deserted from the enemy; and since flight was impossible, all prepared for

battle. Themistocles had taught his squadron an improved system of tactics. Every trireme was armed with a strong iron beak projecting from its stem; and its most effective attack was to strike with its head on the enemy's broadside; the next to render his vessel unmanageable by dashing away some of his oars. It had been usual to grapple and endeavour to board, so that the action had been decided by the soldiers on the deck: but Themistocles taught the Athenians to depend on the management of the vessel, and therefore, to lighten it, he diminished its complement of soldiers. With the morning the Persians advanced in the confidence of superior force, and only anxious to prevent the escape of their enemies: they had considerably more than 1000 triremes, while the Greeks had but 378, of which 180 were Athenian. The whole Persian army, with Xerxes at its head, was drawn up on the Attic shore to view the engagement.

The action commenced with the arrival of an Æginetan galley chased by the Persians. The Greeks advanced to support it; but on coming front to front with the vast multitude of hostile vessels, there was a general movement of fear, and all the captains hung back except the Athenian Ameinias, the brother of Æschylus the poet, who was himself also distinguished in the battle. Ameinias dashed forward and grappled with a Phœnician vessel; the rest pressed on to aid him; and thus, according to the Athenian account, the fight was begun. The Æginetans, on the other hand, said that their ship commenced the engagement; an assertion, perhaps, not really inconsistent with the claim of the Athenians, if we suppose that, when the Æginetan galley was hard pressed, Ameinias pushing forward to its rescue enabled it to turn on its pursuers. Both stories admitted the wavering of the Greeks, and the Æginetans related a marvel as the cause of its removal; for they said that, at the doubtful moment, a female figure had appeared in the air, and a voice had been heard by all to give the word for attack, crying "How long for shame will ye back your vessels?" The onset of the Greeks was steady and orderly, in spite of their passing hesitation: whereas, in the Asiatic fleet, presumption had bred carelessness, and carelessness confusion. Notwithstanding the great disparity of force, the Greeks were completely victorious, and

the hostile armament was ruined. On this day, the Æginetans were judged to have won the first praise, the Athenians the second. (B. C. 480.)

The destruction of his fleet struck Xerxes with dismay, and produced in him an eager wish to escape in any manner from a campaign which was now becoming troublesome and dangerous. Mardonius saw that he would gladly listen to any proposal that would facilitate his return. He was aware that without a fleet the war might probably be tedious, in which case the immense bulk of the present army would be only an incumbrance, from the difficulty of subsisting it. Besides, his ambition was flattered with the idea of becoming the conqueror of Greece, while he feared that, if he now returned, he might be made answerable for the ill success of the expedition he had advised. He therefore proposed to Xerxes to return into Asia with the body of the army, leaving himself with 300,000 of the best troops, to complete the conquest of Greece. Xerxes assented, and the army having retired into Boeotia, Mardonius made his selection, and then, accompanying the king into Thessaly, there parted from him, leaving him to pursue his march towards Asia, while himself prepared to winter in Thessaly and Macedonia.

The remnant of the Persian fleet having been pursued as far as the island Andros, in the Ægean, Themistocles proposed to continue the chase, and then to sail to the Hellespont and destroy the bridge; Eurybiades opposed him, on the ground that there was danger lest the Persians, being rendered desperate, might yet be successful; and the Peloponnesians generally agreeing with Eurybiades, the proposal was rejected. On this, Themistocles persuaded the Athenians, who had been most eager for pursuit, to acquiesce; while he took advantage of the incident to secure to himself, in case of banishment, a refuge in Persia, by sending a secret messenger to Xerxes, to inform him of the plan which had been proposed, and to say that Themistocles, through friendship to him, had procured its rejection. The fleet then proceeded to levy contributions from the Grecian islands which had joined in the armament of the invader: when Themistocles abused the power resulting to him from the large squadron he commanded and from the general admira-

tion given to his ability and services, by exacting large bribes from many of the islands, as the price of his influence employed to avert from them the vengeance of the confederacy. The Persian fleet, now 300 ships strong, with the Ionians, took its station at Samos, to prevent the revolt of Ionia. The Greeks returned to Ægina, where, receiving ambassadors who solicited their assistance to liberate Ionia, they proceeded as far as Delos, and there stopt, themselves being afraid to approach nearer to Asia, as the Persians were to come nearer than Samos to Greece.

Mardonius, when he parted from Xerxes, had detached 60,000 men under Artabazus, a noble Persian, to protect the retreat. Artabazus having attended the king as far as the Hellespont, on his return undertook the reduction of Pallene, a peninsula on the Macedonian coast, which had revolted on learning the battle of Salamis and the retreat of Xerxes. Here the sea having retired and left the sands bare for a considerable space, he attempted to pass over them into the peninsula; but a large proportion of his soldiers perished by the sudden return of the waters, and he was obliged to lead the remnant into Thessaly to Mardonius.

In the spring, the first important measure of Mardonius was an attempt to detach the Athenians from the confederacy of which their vigour and public spirit had been hitherto the soul. He knew that if he could gain them, the Persians would at once recover the command of the sea: and having this, when every city was liable separately to be attacked by the fleet, it was vain to think that an army could be held together capable of opposing his own. He chose for his ambassador, Alexander, the king of Macedonia, who was previously connected by the bond of hospitality with the Athenians; and empowered him to offer them independence and the friendship of the king, with the rebuilding of their temples, the complete restoration of their territory, and the addition of any which they might wish to possess. The power of Persia, the past sufferings of Athens, the probability that it would in any future Persian invasion be again the first to suffer, its experience how little aid was to be expected from the selfish timidity of its Peloponnesian allies, were considerations which might probably incline it to the acceptance of terms so advantageous.

The Lacedæmonians took the alarm, and sent ambassadors to Athens, to remind that people that they were the principal cause of the war, to conjure them to be true to the liberty of Greece, and to offer, in consideration of the waste already made in the property of the Athenians, to maintain in Peloponnesus, while the contest should last, their wives and such of their slaves as were useless in war. The reply of the Athenians was to Alexander a firm but temperate refusal; to the Lacedæmonians, a declaration that they would pursue the war upon their own resources, without trespassing on others, together with a request that the Lacedæmonians would be ready to march into Boeotia, to save them from a second capture of their city.

On learning the rejection of his proposals, Mardonius straightway advanced on Athens. The Athenians remained in the city as long as they hoped to be joined by their allies; but when Mardonius had arrived in Boeotia and no aid was near, they passed over into Salamis, and left him the empty city, which he occupied, and then sent a messenger to Salamis, bearing the same offers which had been brought by Alexander. Ill used as they had been, the Athenians were true to Greece. The only man who ventured to advise compliance was Lycidas, a counsellor; and it is painful to relate that, as a whole people can seldom be roused to deeds of heroic and devoted patriotism, without an excitement too violent to allow them, when inflamed by a suspicion of treason, to listen to the voice of humanity, or even of justice, the enraged multitude stoned Lycidas to death, while the women crowded unbidden to his house, and inflicted a like vengeance on his wife and children. The law of nations was, however, respected on this occasion, and the messenger dismissed unhurt. Ambassadors were sent to the Lacedæmonians to complain that succours were withheld, to remind them of the offers of Mardonius, and to threaten that the Athenians, if unassisted, would provide for themselves alone. The Lacedæmonians were quietly celebrating the Hyacinthia, one of their great annual festivals; and at the same time were, with the other Peloponnesians, completing the fortification of the Isthmus. The ambassadors made their complaint to the ephori, but the answer was put off from day to

day. "I cannot tell," says Herodotus, "why, on the arrival of Alexander at Athens, they were very anxious that the Athenians should not join with the Medes, but now made no account of it; unless because the Isthmus was now fortified, and they thought they had no need of the Athenians; whereas, when Alexander came into Attica, the walls were unfinished, and they were labouring in great fear of the Persians." On the tenth day, however, it was suggested to the ephori, that all their fortifications would be a vain defence to Peloponnesus if the enemy had the fleet of Athens, to transport his army. The hint struck them, and fear effected what justice and honour ought to have done: 5000 Spartans were despatched that night, and when, on the following morning, the ambassadors came to make their last indignant remonstrance, they were told that the succours were already on their march.

Mardonius being informed by the Argians, who were secretly in his interest, that the Lacedæmonians were in motion, withdrew his army into Bœotia, for the sake of engaging near the friendly city of Thebes, and in a more level country, and therefore more favourable to his cavalry. Before leaving Athens, he burnt and demolished what remained of the city. The Athenians crossed from Salamis, and the confederate army being assembled at Eleusis, advanced to Erythræ, on the border of Bœotia, where it took up a position on the roots of mount Cithæron. The heavy-armed troops of the Grecian army amounted to 38,000, of whom the Lacedæmonians contributed 10,000. Of these 5000 were Spartans, from the city, each of whom was attended by seven light-armed Helots. In the rest of the army it is computed that to each heavy-armed soldier there was one light-armed attendant. Besides, there were 1800 light-armed Thespians, the remaining strength of that little state, all its heavy-armed troops having fallen at Thermopylæ, and those who remained being probably the poorer citizens, who were unable to purchase the full armour, or to maintain themselves in distant warfare. With these the entire numbers were nearly 110,000. The army was led by Pausanias, the Spartan commander, who was cousin and guardian to the minor king Pleistarchus, the son of Leonidas. The Athenian force of 8000 heavy-armed was led by Aristides.

Mardonius's army consisted of 300,000 Asiatics and about 50,000 Greeks.

The first attack was made by the Persian cavalry, who continually riding up in small parties, discharged their arrows and retired, annoying the Greeks without any retaliation. The Megarians being placed in the most exposed part of the line, sent to Pausanias to say that they could no longer maintain their ground, and a picked band of 300 Athenians volunteered to relieve them. They took with them some archers, a service which the Athenians cultivated with an attention and success unusual in Greece; and soon after their arrival, Masistius, the general of the Persian cavalry, his horse being wounded with an arrow, was dismounted and killed. All the horse now making a desperate charge forced back the 300, till the rest coming up to support the Athenians, they were repulsed with great slaughter. The army was encouraged by this success, but its present position was inconvenient, particularly for want of water, and it was resolved to move into the territory of Platæa. A dispute arose between the Athenians and the Tegeans, for the post of honour at the extremity of the left wing; but it was prevented from proceeding to extremity by the wise moderation of the Athenian commanders, who still maintaining their claim of right, professed themselves willing, nevertheless, to take their place wherever the Lacedæmonians might appoint. The Lacedæmonians decided in their favour, placing them at the extremity of the left wing, and the Tegeans in the right, next to themselves.

Mardonius now drew up his army according to the advice of the Thebans, opposing the Persians to the Lacedæmonians and Tegeans, the Bœotians and other Greeks in his service to the Athenians, and to the other bodies that occupied the centre, the Medes and the rest of the Asiatics. The soothsayers on each side predicted success to the party which received the attack; in compliance probably with the policy of the commanders, each of whom being posted on ground advantageous to himself, was unwilling to leave it and enter on that which had been chosen by his adversary. Ten days were spent in inaction, except that the Persian horse were harassing the Greeks, and, latterly, intercepting their convoys; but on the eleventh, Mardonius growing impatient, called a council of war, and resolved,

against the opinion of Artabazus, to attack the Greeks on the following day. The same night, Alexander the Macedonian, riding alone and secretly to the Athenian encampment, asked to speak to the commanders, and gave them notice of the resolution taken.

Pausanias being informed of this by the Athenian generals, proposed a change in the order of battle, by which the Athenians should be opposed to the Persians, of whose mode of fighting they alone had experience, while in their place the Lacedæmonians should act against the Bœotians and other Grecian auxiliaries. The Athenians readily consented, and the troops began to move while the morn was breaking; but Mardonius made a counter-movement of his Greek and Persian troops, and the Lacedæmonians desisted from their purpose when they saw that it was known. Mardonius sent a herald to reproach them with their fear, and then commenced the action with his horse, who harassed the Greeks severely, and filled up the spring from which their water had been supplied. The Greeks now suffered both from the attacks of the cavalry, and from the want of water and food, their convoys being cut off: and it was resolved to proceed at night to a position nearer Platæa, where water abounded, and the ground was less favourable to horse. Accordingly in the night the army was moved, but the Greeks of the centre had been so disheartened by the attacks of the cavalry, that instead of taking up the appointed position, they fled to the city of Platæa. There remained on the one wing the Lacedæmonians (10,000 heavy-armed), and the Tegeans (1500); on the other the Athenians (8000), with the Platæans (600), who always accompanied them, and who had carried their zeal so far that, though an inland people, they helped to man the Athenian ships at Artemisium. Including the light-armed, those who stood their ground were, of the Lacedæmonians and Tegeans 53,000, of the Athenians and Platæans about 17,200. The march of the Lacedæmonians and Tegeans was delayed by the obstinacy of Amompharetus, a Spartan officer, who viewing the intended movement as a flight, long refused to join in it. The day was dawning, and the Lacedæmonians, through fear of the horse, proceeded over the roots of Cithæron. The Athenians, who had waited for the move-

ment of their allies, went by the plain. Mardonius, on seeing the Greeks, as it seemed, retreating, was filled with exultation, and immediately led the Persians after them, while the other Asiatics followed tumultuously, thinking the day won. The Lacedæmonians, on the approach of the cavalry, sent to the Athenians for assistance, begging that if they were unable to come, they would at least send the archers; but the Athenians, when preparing to comply with the summons, were prevented by the attack of the Greeks in the Persian service.

The battle was now joined on both sides. The Persians fought with great bravery; but neither bravery nor vast superiority in numbers could compensate their inferiority in arms and discipline, and they were at length defeated with great slaughter, Mardonius being killed. The other Asiatics fled immediately, when they saw the Persians broken. Of the Grecian auxiliaries, opposed to the Athenians, many were slack in their exertions as not being hearty in the cause; but the Bœotians, who formed the strongest body, were zealous for the success of Mardonius, and they fought long and hard before they were defeated. The Bœotians fled towards Thebes, the Asiatics to their entrenched camp, their flight being in some degree protected by the Asiatic and Bœotian cavalry. On hearing that their friends were victorious, the Greeks of the centre returned in haste and disorder to the field, and the Megarians and Phlians going by the plain were charged and broken with considerable loss by some Theban horse.

The fugitives who escaped into the camp were in time to close the gates and man the walls against the Lacedæmonians and Tegeans; and the assailants being unskilled in the attack of fortifications, they made a successful defence till the arrival of the Athenians, who went about the work more skilfully, and soon gained entrance. The passions of the Greeks were inflamed to the utmost by long distress and danger, and no mercy was shown. Of the 300,000 men who were left with Mardonius, 40,000 had been led from the field by Artabazus when it first became evident that the Persians were losing the battle; but of the others not 3000 are said to have survived the battle and the subsequent massacre. The mind revolts from such sweeping destruction,

even amidst its exultation on viewing the deliverance of a great people from unprincipled aggression. It were indeed to be wished that an outraged nation would remember mercy in the moment of vengeance, and refrain from needlessly visiting on the miserable tools of despotism the crimes of their employers. But though such magnanimous humanity may be sometimes taught by reason and religion to an individual, it can never be expected from a body of men, and least of all from men flushed with victory, and burning with all the fierce passions necessarily engendered in a bloody struggle for life or death, however just and holy the motive of the fray. Few victories are free from the stain of unnecessary bloodshed, even when won by mere professional soldiers, unprovoked by personal wrongs, and careless of the quarrel in which it pleases their rulers to employ them. The Athenians were men whose houses had been burnt, and whose families had suffered all the evils of a sudden emigration, while any who remained behind were undistinguishingly slaughtered. The other Greeks, if they had not endured it, had lived in fear of the like treatment at the hands of enemies whose warfare was habitually merciless. Assuredly, therefore, it is not a subject of wonder, or of harsh and unmitigated reproach, if the cruelties of the Persian soldiery were retaliated in kind.

Artabazus arrived in safety at Byzantium* on the Bosphorus, whence he passed into Asia; but not without many of his followers being cut off by the Thracians, and many dropping on the way through fatigue and hunger. Meanwhile the army of the Grecian confederacy marched against Thebes, and compelled that city to purchase its safety by delivering up the principal authors of its defection from the common cause, who were sent to Corinth by Pausanias, and there put to death.

Another battle was fought in Asia on the same day with that of Plataea. The Samians, without the knowledge of their tyrant or the Persians, had sent messengers to invite the Grecian fleet at Delos to pass over to Ionia, assuring the commanders of their superiority to the Persian force in those seas, and of the disposition of the Ionians to revolt. The Greeks complied; and on their approach the Persian leaders, feeling themselves too weak for a sea-fight, sent away

the Phœnician ships, and bringing the others to the promontory of Mycale, near Miletus, where the land army was encamped, drew them upon the beach, an easy thing with the light vessels used in ancient war, and surrounded them with a rampart. The chief commander of the Greeks was Leotychides, a Spartan of one of the royal houses. On arriving, he repeated, with a similar double purpose, the stratagem of Themistocles at Artemisium. Sailing along the shore he made proclamation by a herald to the Ionians, bidding them remember that the Greeks were fighting for their liberty. The Persians were already jealous of the Samians, because they had ransomed and sent home some Athenian prisoners: and their suspicions being strengthened and made more general by the proclamation, they disarmed the Samians, and sent the Milesians to guard the passes, under pretence of profiting by their knowledge of the country, but really to remove them from the camp. The Athenians advancing along the beach commenced the action, followed by the Corinthians, Træzenians, and Sicyonians. After some hard fighting they drove the enemy to his entrenchments, and then forced the inclosure, on which the mass of the army fled, the Persians only still resisting. It was not till now that the Lacedæmonians came up, having been impeded by steep and broken ground. On seeing the Greeks prevailing, the Samians, though unarmed, did what they could in their favour, and the other Ionians followed their example, and sided with the Greeks. The Milesians, who had been sent to guard the passes by the Persians, turned against them and slaughtered the fugitives. All Ionia now revolted. The fleet proceeded to Samos, where a consultation was held on the fate of that country. It could not protect itself unassisted, and its defence was a burden the Greeks were loth to support. The Peloponnesians proposed to remove the inhabitants, and settle them on the lands of those states that had joined the common enemy: but the Athenians were averse to the desolation of Ionia, and jealous of the interference of others with their colonies; and when they urged the reception of the Ionians into the confederacy, the Peloponnesians gave way, and the Samians, Chians, and other islanders who had joined the fleet, were admitted.

The fleet now sailed to the Hellespont to destroy the bridge, but found it

* Byzantium, the modern Constantinople.

broken; on which Leotychides with the Peloponnesians returned home, while the Athenians remained and formed the siege of Sestos on the Hellespont, where the Persians from all the other towns of the Chersonese had collected. The siege was continued till the Persians were reduced to the extremity of famine, and then they escaped by night out of the place, but many were slain or taken in the pursuit. The Athenians having cleared the Chersonese of the invaders, returned home.

Immediately after the battle of Plataea, the Athenian people had begun to bring back their families and to rebuild their city and ramparts. But the jealousy excited in the Peloponnesians by the power and spirit which Athens had displayed, was far stronger than their gratitude for what it had done and suffered in the common cause. An embassy arrived from Peloponnesus to urge the Athenians not to go on with the fortifications, but rather, as far as in them lay, to demolish the walls of all other cities out of Peloponnesus, that the enemy, if he again returned, might have no strong place to fix his head quarters in, as recently in Thebes. If the demand had been complied with, Athens would have become entirely subject to Lacedæmon. At the same time it was dangerous to refuse, since, from the past conduct of Lacedæmon, there was little ground to expect that gratitude would prevent it from any action prompted by jealousy or ambition; while it was vain to hope that the military force of Athens, always inferior to that of Lacedæmon, and now further weakened by the number of citizens absent with the fleet, would be able to maintain itself without the aid of walls against the united strength of Peloponnesus. In this difficulty Themistocles advised them immediately to send away the Lacedæmonian ambassadors, to raise up the walls with the utmost possible celerity, men, women, and children all joining in the work; and chusing himself and some others as ambassadors to Lacedæmon, to send him thither at once, but to detain his colleagues till the walls had attained a sufficient height for defence. He was accordingly sent to Lacedæmon, where he put off his audience from day to day, excusing himself by saying that he waited for his colleagues, who were daily expected, and wondered that they were not come. But when reports arrived that the walls

were gaining height, he bade the magistrates not trust to rumour, but send some competent persons to examine. They sent accordingly, and at the same time Themistocles secretly directed the Athenians to detain the Lacedæmonian commissioners, but with the least possible show of compulsion, till himself and his colleagues should return. The latter were now arrived, and brought news that the walls had gained the height required: and Themistocles declared to the Lacedæmonians that Athens was already sufficiently fortified, and that henceforth if the Lacedæmonians and their allies had anything to propose, they must do it as to persons able to judge both of the common interest and their own; that when it seemed best to abandon the city, the Athenians had determined and done it for themselves, and that in the deliberations of the confederacy they had appeared in judgment inferior to none; that they thought it best for themselves and for all, that their city should be fortified, since there could be no equality nor freedom of debate on the concerns of the alliance, without such an approach to equality in defensive means as might ensure to each a certain degree of independence and security. The Lacedæmonians were secretly mortified at their failure, and probably not the less so from the consciousness that the attempt had been an unhandsome one; but their discontent did not break out openly, and the ambassadors on each part went home unquestioned.

The following year Pausanias being appointed to command the confederate fleet, reduced most of Cyprus, and then proceeding to the Bosphorus besieged and took Byzantium from the Persians. But his mind was drunk with glory and power, and he now aspired to hold under Persia the dominion of Greece. He favoured the escape of the prisoners taken in Byzantium, and with them he sent a letter to Xerxes, in which he asked his daughter in marriage, and promised to effect the subjugation of Greece. On receiving a favourable answer his pride swelled yet higher, and led him to conduct not more profligately arrogant than absurdly impolitic. He assumed the Median dress and mode of life, and took a body-guard of Medes and Egyptians; and he daily treated the allies with extravagant haughtiness and severity, inso-

ferring as leaders the Athenians, their kinsmen and most active liberators, now urged them to take the command, and, if necessary, to resist Pausanias. At this crisis Pausanias was called home under a charge of treason, and forthwith the whole fleet, excepting the Peloponnesians, took the Athenians for leaders. Dorcis was sent out to replace Pausanias, but the allies refusing him obedience, he withdrew with his squadron from the fleet: and the Lacedæmonians acquiesced the more readily in the change, from weariness of the war, from fear lest their officers should, like Pausanias, be corrupted into disobedience to the laws, and from holding the Athenians equal to the command and now friendly to themselves. This beginning of Athenian ascendancy took place in the year B. C. 477. (Clinton's *Fast. Hellen.*)

Pausanias, on his return, being acquitted of the charge, but not reinstated in his command, went out again without public authority, pretending a wish to be present on the scene of action, but really purposing to carry on his practices with Persia. But fresh information arriving against him, the ephori again recalled him, and he obeyed, trusting for security to money and friends. There were strong grounds of suspicion, but not proof enough to procure the condemnation of a man of high rank and pure Spartan blood, says the historian; implying, apparently, that against a meaner man slighter proofs might have sufficed. Complete evidence was at length supplied. A slave entrusted by Pausanias with a letter to Persia, was alarmed by observing that no former messenger had ever returned. He opened the letter, and found that it directed his death; and he immediately carried it to the ephori, who not yet being fully satisfied with the proof, contrived with him a plan through which they overheard an avowal of the treason from the mouth of Pausanias himself. They now proceeded to arrest Pausanias, but he being forewarned, took refuge in a building belonging to the temple of Minerva, called the Brazen House. The sanctity of the place forbade them to force him out or kill him there, but they walled him in and let him perish by hunger. They were not, however, thought to have preserved themselves by the evasion from the guilt of sacrilege.

The Lacedæmonians sent ambassa-

dors to Athens to declare that they had found evidence implicating Themistocles in the treason of Pausanias. It seems very unlikely that he should really have concurred in it, but not improbable, considering his intriguing character, that he may, to serve some purpose of his own, have tampered with Pausanias in a manner that might countenance the suspicion. He was now banished by ostracism and living at Argos, and hither Athenian and Lacedæmonian commissioners went together to arrest him. He fled at their approach, and went to Corcyra; and thence he was conveyed to the opposite continent by the Corcyræans, who owed him kindness, but feared to protect him. Whithersoever he went, he was followed by those who were sent to apprehend him, till he was obliged to commit himself to the generosity of a personal enemy, Admetus, the king of the Molossians. Admetus being absent, Themistocles addressed himself to his wife, and was instructed by her to take her child in his arms and seat himself on the hearth, as the most prevailing manner of supplication. On the return of Admetus, he declared who he was, and prayed that if, in the assembly of the Athenians, he had spoken anything against the interest of Admetus, it might not be visited upon him in his banishment: "For he was now an easy prey to any one much weaker than Admetus; but a generous spirit would only avenge itself on its equals, and in equal contest." The Molossian prince was moved, and received him to hospitality; and when he was demanded by the messengers of Athens and Lacedæmon, he would not give him up, though he did not venture to retain him. Themistocles wished to go to Asia, and he was sent by Admetus to the Macedonian port of Pydna, where he embarked in a trading vessel bound to Ionia. He was driven by cross winds to the island of Naxos, where an Athenian armament was besieging the city. (B. C. 466. See the next chapter). In this emergency he made himself known to the master of the ship, and threatened that, if taken, he would declare to the Athenians that the master had knowingly carried him for the sake of gain. The only means of safety, he said, was, that none should quit the vessel; and if in this the master would comply with him, he should be largely rewarded. Accordingly, the vessel was kept in the offing for a day and a night, and then, as soon as the weather al-

lowed, it proceeded to Ephesus. On arriving in Asia, Themistocles wrote to the king Artaxerxes, the son and successor of Xerxes, beginning his letter thus:—"I, Themistocles, come to thee, who have done thy house most ill of all the Greeks, while I was of necessity repelling the invasion of thy father; but yet more good, when I was in safety and his return was endangered." He mentioned the warning he gave before the battle of Salamis of the intended flight of the Greeks, and the breaking of the bridge, which at the time he professed to have prevented: declared that he was able to do great service to the king, and was now expelled for friendship to him; and said, that at the year's end he would in person explain the purpose of his coming. The king bade him do so, and after a year spent in learning the Persian language and manners, he went to Susa, and was there received into the highest favour, as well on account of his reputation and the ability which appeared in his discourse, as for the promises he made of reducing Greece under the Persian yoke. The revenues of three cities were assigned for his support, and he lived in great splendour till he fell sick and died, according to some; according to others, he poisoned himself when Artaxerxes was preparing an invasion of Greece, whether from conscious inability to fulfil his promises, or from unwillingness to assist in enslaving the country he had preserved. It is said that he directed his bones to be carried to Attica, and secretly buried, since the laws forbade the interment there of one banished for treason. He left an unequalled reputation for readiness, decision, and rectitude of judgment, fertility of resource and acuteness in conjecture, for foresight of the good and evil results of every measure, and for eloquence in enforcing his conclusions. Had he joined to these high powers of mind a clear integrity and singleness of purpose, his fame would have been purer, and his latter days perhaps more happy. It is true his double policy served him well in securing so splendid an asylum in Asia, but a more straightforward line of conduct might have prevented his exile. In all his exertions for the good of his country he endeavoured at the same time to promote his private profit, and to keep up an interest with the public enemy, by which he might be able, if it should be

convenient, to separate his fortunes from those of Athens. Such a man, whatever be his services, can never be trusted: and however innocent he may have been of the treason of Pausanias, it was the natural consequence of his habitual doubledealing that the charge should readily be believed.

During part of the war just described, a struggle no less critical had taken place among the Grecian settlements in Sicily. The Phœnician colony of Carthage, in Africa, remarkable no less than its mother country for maritime and commercial enterprise, was beginning to attain a degree of military power to which Phœnicia had never aspired. It possessed a part of the northern coast of Sicily, and the opportunity was inviting to subdue the whole, while all assistance from Greece was precluded by the Persian invasion. A pretext was furnished by a quarrel with Theron, tyrant of Acragas, or Agrigentum, a colony from Gela, and, after Syracuse, the most powerful state in Sicily: and an enormous armament was sent out, strengthened, according to the usual practice of Carthage, with mercenaries from many barbarous nations, the fleet being by treaty joined with that of the Tuscans. Gelon, however, marched with the force of Syracuse to the assistance of Theron, leaving the command of his fleet to his brother Hieron: and Hieron defeated the Carthaginian and Tuscan fleet, while, about the same time, the Carthaginian land force was completely broken at Himera by the united armies of Syracuse and Acragas. It is said, by some authors, that Gelon's victory took place on the same day with the battle of Salamis. No further conquest was attempted in Sicily by Carthage for many years after; but we are not sufficiently acquainted with the history of that city to determine the cause of its inaction. Shortly after his victory Gelon died. His ability and popularity are shown by the fact, that 130 years after, when a vote was passed to remove all statues of kings and tyrants, Gelon's alone was excepted. He was succeeded by Hieron, also a prince of considerable ability, and remarkable for the encouragement of letters. In the following reign of his brother Thrasybulus, who is accused of cruelty and arbitrary conduct, a civil war took place, which ended with the establishment of democracy in Syracuse.

CHAPTER V.

Of Greece, from the establishment of Athens as a leading state, to the beginning of the Peloponnesian War.

THE Athenians, being acknowledged as leaders by the Greeks of Asia and the islands, proceeded regularly to organise the confederacy. Aristides was, by common consent, appointed to make the assessment determining how much each city was to contribute in ships or money to the support of the war. This he executed with the greatest impartiality, and in such a manner, that the justice of the proportions appears to have been questioned by none. The whole annual amount of the tribute was 460 talents, about 101,200*l.* Athenian officers were appointed to receive it, under the title of *Hellenotamiae*, stewards or treasurers of the Greeks. The common treasury was established in the sacred island of Delos, and here the assembly of delegates was held which directed the operations of the league. The whole arrangement was marked by an equity and moderation uncommon in Greece, and very opposite to the after conduct of Athens: and this may probably be ascribed partly to the circumstance that the power of Athens was yet incompletely established, and depended much on the good will of its allies, and partly also to the wisdom and virtue of some of the present leaders there, especially Aristides.

The war was successfully carried on under Cimon, the son of Miltiades, against those places in Europe which still held for the Persian King. But the allies grew weary of it, and many agreed to pay a sum of money in lieu of the ships which they were bound to furnish. By this Athens was at once obliged to build and employ more ships, and supplied with the means, while the navy of the allies proportionally declined. The Athenians feeling their strength became haughtier in their conduct, and more harsh in enforcing the same services which grew to be less punctually rendered. Hence rose wars with the defaulters, in which Athens uniformly prevailed, the fleet of the conquered city was taken from it and a heavier tribute levied: and since every such contest brought fresh power and wealth to the predominant state, and diminished the resources which could be at the com-

mand of any combination among its dependents, Athens, from the leader, became the mistress of her allies. The first state so subjected was the island Naxos, which revolted and was conquered in the twelfth year of the Athenian command. In the following campaign the forces of the Athenian league under Cimon won two great victories on the same day from the Persians, by sea and then by land, at the mouth of the river Eurymedon, in Pamphylia. Some time after the Athenians had a quarrel with the islanders of Thasos about some mines on the opposite coast of Thrace, and about the revenues of the ports in the same region; when the Thasians, after a defeat at sea, and a siege of three years, submitted to give up their ships of war, to demolish their walls, and to pay a heavy tribute, resigning the disputed revenues. (B. C. 463.)

The Lacedæmonians being appealed to by the Thasians, were secretly preparing to invade Attica in their behalf, when they were prevented by an earthquake, in which great part of Sparta was overthrown, and 20,000 persons perished. The Helots, who were nearly all of Grecian blood, and chiefly descended from the conquered Messenians, took the opportunity to revolt, and were joined by some of the Pericæci, or people of the towns, who, though personally free, were politically enslaved, being excluded from all share in the government, obliged to unlimited obedience to Lacedæmon, and liable to insolent and arbitrary indignity both from the officers of the state and from individual Spartans. An attempt to surprise the city was foiled by the ready prudence of the King Archidamus, and the revolters occupied Ithome, the strong hold of their ancestors in the first Messenian war. They were here besieged by the Lacedæmonians, who called in aid from their allies, and particularly from the Athenians, on account of their superior skill in sieges. But the Athenians were proud of the rising greatness of their country, and little disposed to acknowledge the pre-eminence still assumed by Lacedæmon. Disagreement took place, and the Lacedæmonians became suspicious, considering the bold, restless, and somewhat capricious character of their allies, that the Athenians might possibly be induced in the course of the siege to turn against them. They therefore dismissed them, saying that as the siege was converted into a blockade they had no further need of them;

but they still retained their other allies. The Athenians perceived the cause, and were deeply offended, inasmuch that they immediately renounced the alliance, and contracted one with the hostile state of Argos. Ithome was surrendered in the tenth year of the war, under the condition, that the besieged should for ever quit Peloponnesus, and that any who re-entered it should be a slave to the finder. The Athenians received them, and established them at Naupactus on the Corinthian gulf, which had been lately taken from the Locrians.

A quarrel taking place between Megara and Corinth, the former revolted from the Lacedæmonian confederacy and allied itself with Athens, giving it the command, not only of the city, but of its two ports, Nisæa, on the Saronic, and Pegæ, on the Corinthian gulf. (B.C.458.) The Athenians now built between Megara and Nisæa what the Greeks called long walls, that is, fortified lines securing the communication between a city and its port; a valuable defence to a state allied with Athens against Peloponnesus, since no danger could be feared from a land blockade as long as succours could be thrown in unopposed from the powerful navy of its ally. A war ensued against the Peloponnesians, in which Athens gained many successes both by land and sea; its most active enemies being by land the Corinthians, by sea the Æginetans. In one instance its power and energy were most eminently shown, when a large part of its forces being employed in Ægina, and another in Egypt, in an expedition which will afterwards be mentioned, the Corinthians with their allies marched against Megara, thinking that the Athenians could give it no assistance without abandoning the enterprise of Ægina. The Athenians, without recalling a man, sent against them Myronides, an able commander, with those who remained at home, being chiefly old men and boys; and with these they won a decisive victory. About the same time they began their long walls. Their port of Peiræus, with the two smaller, Phalerum and Munychia, had been fortified at the suggestion of Themistocles, with even greater care than the city itself, and he advised them, if they should ever be unable to maintain both, to abandon the city, and establishing themselves in the Peiræus to hold out with their ships and their ramparts against all as-

sailants. The city and the port were now connected by fortifications, in such sort that as long as they could command the sea and defend the walls, the most superior land force could endanger neither.

The Phocians having invaded Doris, the original country of the Lacedæmonians, the strong mutual regard which generally subsisted in Greece between a mother country and her colonies, impelled the Lacedæmonians to send an army against them. Having effected its object, the return of the army was opposed by the Athenians, who, holding Megara and Pegæ, commanded the passes of the isthmus; and it was led into Boeotia to wait the discovery of some safe way to return, and also the result of some overtures from Athenian malcontents, made desperate by the building of the long walls. In every Grecian state, the cavalry being composed of the richest men, and the heavy armed foot of citizens mostly in easy circumstances; while the fleets, where they existed, were principally manned by the poor, who were elsewhere condemned to insignificance among the despised crowd of light-armed; the possession of a navy was necessarily favourable to the importance of the common people. Hence maritime power was always the wish of the democratical party; whereas those who favoured oligarchy preferred depending on the land force, of which the more substantial citizens were the strength. The safety and the present greatness of Athens had been won by the patriotic exertions of all its people, both poor and rich, and chiefly in that mode of warfare wherein all were called into important and decisive action. Accordingly, from the Persian war the government of Athens began to be practically democratical: the supremacy of the general assembly, always acknowledged, now came habitually into play; that body gradually engrossed all the powers of government; and rank and wealth lost all political power, save what they must always exert by influencing the conduct of individuals. The importance of the richer classes was, however, maintained by whatever made the safety of Athens depend on the army it could keep in the field; and hence they would dislike a measure which ensured, without the protection of an army, a safe communication with all its possessions. Besides,

in every democracy the oligarchical malcontents looked for aid to Lacedæmon, as did henceforward the popular party in oligarchical states to Athens; and here was a fresh motive to attempt a revolution before the completion of the works, which would so much diminish the power of Lacedæmon to help them. A rising against the democracy seems to have been contemplated, but it came to nothing. The Athenians marched out to Tanagra in Bœotia, and were there defeated, some Thessalian horse who were with them deserting in the action. The present policy of Lacedæmon was to raise up Thebes as a check on Athens, and the army on retiring left Bœotia subject to that city. Only sixty-two days afterwards the Athenians under Myronides defeated the Bœotians at Cænophyta. Tanagra was taken; in all the towns the democratical party, ever hostile to Lacedæmon, was called into activity, and all Bœotia, except Thebes, came into alliance with Athens. Myronides next advancing into Phocis, where the democratical party, otherwise the stronger, had been kept under by Thebes and Lacedæmon, restored ascendancy to the friends of Athens, and then proceeded to enforce the submission of the eastern or Opuntian Locrians, who were generally attached to Lacedæmon. About the same time Ægina submitted to give up its fleet, demolish its walls, and pay a tribute; and Athens ceased to suffer from an island which, from its situation, its maritime strength, and its ever active hostility, was called the eyesore of Peiræus. The war continued about four years longer, generally in favour of Athens. It was then interrupted by a five years' truce with the Peloponnesians. (B. C. 450.)

The empire of Athens had now attained its greatest magnitude. It extended over most of the islands of the Ægean, including Eubœa; over the Grecian towns of Thrace and Macedonia, and those of Asia. The terms of subjection were various: some were deprived of ships and fortifications, obliged to pay a heavy tribute, and liable to what further exactions it might please the Athenians to make; others, whose obedience hitherto had given no pretence to oppress them, or whose power made it a dangerous attempt, retained their navy, and were only bound to a lighter tribute and to service in war. The common treasury had,

however, been removed from Delos to Athens; the assessment was much raised; the affairs of the league were entirely directed by the Athenian assembly, and any disputes which might arise among its members were determined in the Athenian courts; the meeting of deputies from the different cities, which had been held at Delos, was indeed continued at Athens, but it no longer had any effective power, its boldest exertion being humble suggestion or remonstrance to the Athenians. Besides, the power of Athens was extensive on the continent of Greece. It directed Megaris, Bœotia, Phocis, and the Opuntian Locris; from Pegæ and Naupactus it commanded the Corinthian gulf; in Peloponnesus, Trœzen was subject to it; its influence was predominant in Achaia, and Argos was connected with it by necessary interest and common hostility to Lacedæmon.

While Athens was rising to its present greatness, changes not less important took place in its internal government. Where slave-labour prevails, there can be little employment for the poorer freemen; and hence in Greece that class was usually degraded and miserable. The great destruction of property in the Persian war would increase the number of poor in Athens; their bravery and services would much enhance their claim to consideration. But whence were they to be maintained? This question was answered by successful and lucrative war, and the rapid growth of empire. These gave the citizens both employment and maintenance; in the intervals of service they lived at leisure on the fruits of pay and plunder, and occasional donations from the state and from wealthy individuals; and having little private business they were the more ready to attend the assembly when any interesting question was to be debated. The poorer citizens were superior in number to all, and to most of the middle class in leisure and frequency of attendance: and hence rose two effects apparently inconsistent; the regular increase of power in the lower orders, with the almost uniform success of every measure tending to gratify them; and the great influence accruing to wealthy individuals, if they laid out their riches with politic liberality on feasts, theatrical representations, and other methods of contributing to the amusement and comforts of those who were unable to command the means of pleasure.

After the fall of Themistocles, Cimon was long the first man in Athens; by his abilities, integrity, and popular manners, and by the splendidly liberal use of his great wealth. He threw down the fences of his gardens and orchards near Athens, and permitted all to partake of their produce; spread a table daily for the poorer citizens, particularly those of his own ward; and was always ready to give or lend money to the indigent. His magnificence was also displayed in public works. He adorned the city with splendid porticoes, groves, and gardens, in which it was the delight of the Athenians to assemble and pass their time in conversation. Most of this was done at his private expense: but other important works were executed under his direction, from the riches which his victories had brought into the treasury. In particular, the defences of the Acropolis were completed in this manner.

In his political bias Cimon was aristocratical, and desirous of friendship with Lacedæmon, and it was chiefly owing to him that so long a time elapsed before a breach with that power. There was, however, a strong opposing party whose influence rose with the rising dislike of Lacedæmon; and when the Athenians were provoked to renounce its alliance, Cimon was banished by ostracism, and the opposition came into power. Ephialtes was the ostensible leader, but Pericles the son of Xanthippus was rapidly gaining the chief influence; a young man of noble birth and great abilities, with some military distinction, but principally noted as an accomplished statesman and speaker. His high natural gifts had been improved to the utmost by education and by converse with philosophers and men of letters: his mind was penetrating and comprehensive, his oratory most forcible, with a polish and elegance before unknown. The new government was strengthened by the gaining of Megara, and the ensuing victories; but the people missed the bounty of Cimon; it was necessary to gratify them, and the means of the present leaders were inadequate. The expedient adopted was to apply to this purpose a part of the public revenues; and at the same time it was deemed essential to that speedy and brilliant success in the war without which the administration could not stand, to conduct the operations on a great and expensive scale. But all issues from the

treasury were controlled by the council of Areiopagus, which being mostly aristocratical and friendly to Cimon, was thought not likely to sanction the expenditure demanded by the views of the new rulers. Ephialtes proposed to curtail the powers of that body, giving to the assembly the cognizance of the most important causes reserved by Solon to the Areiopagus, and the power of directing issues from the treasury without control. The motion was supported by Pericles, who, after it was carried, obtained a law giving* pay for attendance in the assembly and in the courts. The religious festivals were increased in number and magnificence, and thus, on days of business the many were fed by their pay, on holidays feasted by the victims of the sacrifices.

Since the Persian war, Athens had become the seat of philosophy and art, which had long flourished in the earlier quiet, riches, and civilization of Ionia, but had hitherto been little cultivated in Greece. Their growth had been liberally encouraged under the administrations of Themistocles and Cimon, and that of Pericles went yet further in the same career. The city was adorned with master-pieces of sculpture, painting, and architecture. The religious festivals were accompanied with contests in poetry and music. Tragedy, from a rude ode in honour of Bacchus, had been raised by Thespis, Phrynichus, and others, to a delineation of human action and suffering; had been clothed by Æschylus with the utmost loftiness of thought and expression, and set forth with all the aids of scenic effect; and was still most successfully pursued by Sophocles, Euripides, and others not meanly gifted, though inferior to these. Comedies were exhibited, disgraced indeed with licentious ribaldry and gross personal abuse, but rife with wit and humour, lively painting of character, and keen political satire. Many distinguished philosophers were resident in Athens, and the citizens flocked to hear them discourse in porticoes and other places of public resort. With such amusements, the people must needs have been unusually pure of taste and active in mind; but their time was given to little but amusement, and hence they were, like other idlers, light-minded and capricious. Secure of subsistence

* This is the statement of Aristotle; according to some others, there was a small pay given before which Pericles increased.

and pleasure at the public expense, the many wanted the discipline of necessity, which habituating men to strict attention in their particular pursuits, enables them, when called on, to display the like on questions of national utility. They were not drawn from private business by the interest of important state proceedings, but, having no business, they found amusement in lively debate, and pride in the exercise of their franchise. Accordingly they thought more of criticising the speakers, than weighing the measures; they were greedy of flattery, readily led away with brilliant promises, careless and hasty in decision, because, though singularly quick of apprehension, they were impatient of continuous thought. Had Athens commanded no resources but its own, it would have been impossible to support in idleness so large a portion of the people; but the subject states were liable to unlimited extortion. Any proposed exaction, however oppressive, was eagerly caught at by the swarm of idlers who looked for maintenance and pleasure to the lavish expenditure of the state; and their number and frequent attendance in the assembly, would generally ensure the success of any measure which united them in its favour. Hence arose a crew of profligate demagogues, who attained a paramount influence by being ready to propose, at any cost of justice, humanity, and ultimate advantage, whatever promised to the multitude an immediate gain; and who frequently turned their ascendancy to profit, by taking presents from the allies as the price of forbearance and protection. The populace drew both gain and pleasure from the submission of the allies; the pride of each was flattered, in proportion to his personal insignificance, by the homage paid him as a citizen of the sovereign republic; their hopes of individual enjoyment were all bound up in the continuance and extension of the empire; and the passions thence resulting were studiously exasperated by unprincipled orators:—what wonder then that we shall hereafter find their sway as jealous as oppressive, and, in case of revolt, their vengeance as cruel as their rule had been unjust?

Shortly after the rise of Pericles and his friends, a fleet had been sent to conquer Cyprus; but Egypt had lately revolted from Artaxerxes under Inaros, a chief of the bordering Libyans, and he made splendid offers to engage the

assistance of Athens. The fleet was ordered from Cyprus to his aid, and backed by Grecian valour and discipline, he soon became master of the country, obliging the Persians to shut themselves up in the White Castle of Memphis, the chief city of Egypt, the other two divisions of the city being taken by Inaros. The Persian king, despairing of success by force, made large offers of money to the Lacedæmonians, to induce them to invade Attica; but they, though not on friendly terms with Athens, refused to be the tool of the common enemy against it. At length, Megabazus, a Persian of the highest rank, being sent with a powerful army, defeated the Egyptians and drove the Athenians out of Memphis. They were now besieged in their turn for eighteen months in an island of the Nile, which was finally taken, and the defenders were mostly slaughtered. Inaros was taken and crucified; and all Egypt submitted, except a large tract of inaccessible marshes. The war had lasted for six years, and was finished three years before the conclusion of the five years' truce with Lacedæmon.

About the same time the two great parties in Athens were reconciled, and Cimon was recalled at the motion of Pericles, having completed only five years of his term of banishment, which he spent on his inherited lordship in the Chersonese. His restoration probably facilitated the conclusion of the truce with Lacedæmon, and till his death Athens was undisturbed by internal contest. In the interval of peace a third long wall was added, passing between the former two to the middle harbour, Munychia, so that if either of the outer walls were forced, the city would still have secure communication with one of its ports. The cavalry had long fallen into insignificance, being probably depressed by Cleisthenes for its attachment either to the Peisistratidæ, or generally to oligarchy. The democracy seemed now too strong to fear it, and a good cavalry would be very useful in any invasion of the Peloponnesians, to check and limit the ravage of the fields. A body of 300 horse was therefore established, and the Athenian cavalry gained credit as among the best in Greece.

The cessation of hostilities filled Athens with a multitude unaccustomed to peaceful industry, and to diminish the inconvenience and provide for a

number of the citizens, a colony of 1000 families was sent out to the Thracian Chersonese. Soon after, to give profitable employment to the many who must otherwise have been supported in idleness, and to divert the popular thirst of conquest from disturbing Greece, the design was resumed of adding Cyprus to the Athenian confederacy. Cimon was sent out thither with 200 triremes; but he died on the island, and this, with the want of provisions, made it necessary to return. Before returning, however, the Greeks won a double victory over the Persians by land and sea.

The superintendence of the temple at Delphi had long been in the common government of the Phocian towns, but the Delphians now claimed it exclusively, and the Lacedæmonians supported them with an army which put them into possession of the temple. This arbitrary act could not but offend the Athenians, and the more, as Phocis was among their allies; and after the retreat of the Lacedæmonians, they forcibly restored the temple to the Phocians. Here the matter rested; but some time after, the Bœotian exiles, expelled when the country came under the influence of Athens, having seized on Orchomenus, Chæroneia, and some other places in Bœotia, the Athenians sent an army to dislodge them. Chæroneia was taken, and the defenders condemned to slavery; but a large force of exiles, Bœotians and others, had been collected at Orchomenus; the Locrians had joined it, who by timely submission had prevented any expulsion of their people; and the returning army was defeated near Coroneia, almost every surviving Athenian being made prisoner. The Athenians were now unable to command Bœotia, and the rather as they expected enmity from Lacedæmon, the five years' truce being near its close; there was scarcely a family not deeply interested in the recovery of the prisoners; and a peace was hastily made, in which their restoration was the only set-off required against the surrender of all claims upon Bœotia.

The treaty was soon proved necessary by the revolt of Eubœa, the most important dependency of Athens. Pericles led thither an army; but he had scarcely landed when it was told him that the Megarians, renewing their connexion with Corinth, had risen on the Athenian garrison. Returning, he defeated the Megarians and their allies; but subsequently Attica was invaded by the Pe-

loponnesians, under the young king of Lacedæmon, Pleistoanax, the son of Pausanias. Defeat might be fatal, and any considerable delay in the reduction of Eubœa might endanger the other dependencies. In this dilemma Pericles is said to have procured the retreat of the invaders, by bribing the chief adviser of Pleistoanax. The army was withdrawn without apparent cause, and Pleistoanax, on his return, being accused of corruption, was fined so heavily that he was obliged to quit the country. Pericles, in the account of the expenses of his command, stated ten talents as employed for a necessary purpose: and it is mentioned as a proof of singular confidence which the people placed in Pericles, that they let that article pass unquestioned. The Peloponnesians being gone, Pericles again passed into Eubœa, and quickly reduced it. The Histiaens were expelled, and their territory apportioned among Athenian families; the rest were admitted to a capitulation, by which they preserved their estates and their municipal governments. The Athenians, weary of a war which had been mostly disastrous, and feeling themselves unable to maintain their empire in its present extent, now concluded with the Peloponnesians a truce for thirty years, by which, besides Bœotia and Megara, which were already lost, they gave up Nisæa, Pegæ, and Trœzen, with the influence which they had hitherto exercised in Achaia. (B. C. 445.)

The death of Cimon had ended the union of parties in Athens. His brother-in law, Thucydides, the son of Melesias, was a man of high birth and character and considerable talents; and to him the aristocratical party wished to trust the helm of the state. But Pericles, who had submitted to be second to the age and tried ability of Cimon, would not give place to any other: and it is probable that the demands of the aristocratical party rose higher on the loss of a chief whose liberal and popular character, while it increased their strength, had moderated their pretensions. A war of oratory ensued. The unfortunate expedition into Bœotia seems to have been conducted by the friends of Thucydides, and by its failure and the disasters following, the people were led to throw themselves entirely upon Pericles. He justified their confidence by his ability and success in extricating the commonwealth from its

perils; Thucydides was banished by ostracism, and the lead of Pericles was henceforth little disputed.

In the sixth year of the thirty years' truce, a war took place between Samos and Miletus, both allies of Athens. The Milesians, being worsted, appealed to Athens, and their complaint was supported by some of the Samians, discontented with the government of their country which was then oligarchical. The Samians in power being required to send deputies to answer the charges, refused compliance, probably apprehending that their plea would be unfavourably heard by a people always hostile to oligarchy; but the Athenians sent a fleet which enforced submission, and established a democracy, taking, as hostages from the oligarchical Samians, 50 men and 50 boys, who were placed under a guard in the island of Lemnos. Some, however, of the party of the Few had fled to the continent, and thence corresponded with their friends in the island: and these, with the aid of Pisuthnes, Satrap of Sardis, having collected 700 auxiliary soldiers, crossed by night into Samos, and, being joined by their friends on the spot, surprised and overpowered the new government. They then went to Lemnos, and retook their hostages, with the Athenian guard, which they gave over to Pissuthnes. They now prepared an expedition against Miletus; at the same time Byzantium revolted in concert with them.

Immediately on the arrival of the news, Pericles was sent out with nine others in command of a fleet, which defeated a Samian force superior in numbers. Reinforcements arrived from Athens, Chios, and Lesbos, and the city was blockaded by land and sea, till Pericles going with a considerable squadron to look out for a Phœnician fleet that was expected to succour the besieged, the Samians by a sudden attack took several ships from the Athenians, and commanded the sea for fourteen days, after which, through the return of Pericles and the arrival of fresh reinforcements to the besiegers, they were again shut up within their walls. In the ninth month of the siege they surrendered: their navy was given up, their walls demolished, they were obliged to give hostages for their fidelity, and to pay a sum of money, by instalments, for the expenses of the war. The Byzantines submitted, not awaiting the approach of the fleet, and they were

admitted to their former terms of subjection.

The Samians in the beginning of their revolt had applied to Lacedæmon for assistance, and an assembly of deputies from the allies had been held to consider the request. It would not seem that any very effectual aid could be expected, since the Peloponnesians were totally unable to cope with the Athenians at sea, and the only chance of their preserving Samos was the diversion which might possibly be made by invading Attica. The request was, however, rejected, principally by means of the Corinthians, yet weak from the last war, and well aware that in any contest with Athens, they, from their nearness, were likely to be principal sufferers; and they are afterwards represented as taking credit with the Athenians for having asserted the right of every leading city to control and punish its allies.

Three years after the reduction of Samos the seeds were sown of a war the most general, lasting, and pernicious with which Greece had been torn. The island of Corcyra, on the coast of Epirus, was a colony of Corinth; a settlement formed by public authority, to extend the connexions of that city, or to relieve it of its overflowing population; and supported in its original weakness by the power, and partially, at least, equipped from the resources of the state.*—As such, it was obliged to give, and entitled to demand, assistance in time of need; and it was bound by sacred usage to pay to the mother city a reverential observance, shown, among other instances, in giving to its citizens precedence in the religious festivals. But Corcyra growing to surpass Corinth in commercial wealth and naval and military power, withheld the customary homage, and thereby incurred the enmity of its metropolis (mother city). Before the breach the Corcyraeans had founded Epidamnus, on the Illyrian coast; by a common practice inviting Phalius, a Corinthian, to be the leader of the colony, that so, as they thought, the gods of their fathers might favour the enterprise, and protect the settlement. Some Corinthians and other Dorians joined the expedition. Epi-

* Provisions and arms were supplied from the public stores in the Prytæum. In the same building, a sacred lamp was kept perpetually burning, from which the colonists lighted a lamp, to burn in like manner in their Prytæum; and this, if accidentally extinguished, could be relighted only at the sacred lamp of the mother city.

damnus grew and prospered, till it was brought low by sedition and war with the neighbouring Illyrians. The oligarchical party, who were expelled, united with the barbarians, and those in the city being hard pressed sent to ask aid from Coreyra. They seem, however, to have felt that their state had no claim of merit with the mother country: they preferred their suit in the habit of suppliants, and it was, notwithstanding, rejected.

The Epidamnians now consulting the oracle at Delphi, were authorised to acknowledge Corinth as their metropolis, and to transfer to it their homage and obedience. The Corinthians accepted the offer, both in hate to the Corcyræans, and as thinking that they had no less right in the colony, since the nominal founder and some of the original settlers had been Corinthian. They proclaimed that any citizen who wished it should go as a colonist to Epidamnus, and sent, besides, an auxiliary force. Offended at this, the Corcyræans took the part of the Epidamnian refugees, who had also requested their interference, and sent a fleet to require the recal of the exiles, which, when this was refused, joined with them and with the Illyrians in besieging the town.

The Corinthians prepared to raise the siege; and being far weaker at sea than their opponents, they procured assistance from many of their allies. Alarmed at the combination against them, the Corcyræans invited the mediation of Lacedæmon and Sicyon, and prevailed so far that ministers from those states accompanied an embassy which they sent to Corinth, to propose that the dispute should be submitted to the arbitration of any Peloponnesian states on which both could agree, or to the decision of the oracle at Delphi. The Corinthians refused, and the armament sailed. The Corcyræans completely defeated it, and slaughtered all the prisoners, except the Corinthians, whom they kept in bonds. On the same day Epidamnus surrendered. The Corcyræans now commanded the sea, and long annoyed their enemies without retaliation.

It had been the settled and hitherto successful policy of the Corcyræans to engage in no alliance. Islanders and strong at sea, they needed not protection, and they would not hazard being entangled in the quarrels of others. But the Corinthians were making the greatest exertions to repair

their defeat, and it was apprehended that they might have the aid of the Peloponnesian confederacy, of which Corinth was a very important member. It seemed therefore necessary to the Corcyræans to obtain a powerful ally; and, their kindred states of Peloponnesus being in the hostile interest, they sent ambassadors to Athens, as the only power from which they could hope effectual succour. The Corinthians also sent an embassy to dissuade the Athenians from supporting their enemies, and the assembly being met, each stated and supported their claims in a set speech. Athens had but a temporary peace with the Peloponnesians, and their disposition was known to be unfriendly: and Coreyra being the second maritime power in Greece, it was important to secure it to the Athenian confederacy, and to prevent its falling under the Peloponnesian. The treaty allowed the admission into either league of any Grecian state not yet a member of either; but it was nearly certain that any act done in defence of Coreyra would be considered as a hostile measure by the Peloponnesians. On the first day of assembly nothing was decided: but on the second day it was agreed, apparently with the wish of Pericles, to contract an alliance solely defensive with Coreyra.

The Corinthians and their allies put to sea with 150 ships, of which 90 were Corinthian; and the Corcyræans met them with 110. Besides, there were ten Athenian triremes, which had orders not to fight unless a descent were attempted on Coreyra or its dependencies: and accordingly they kept aloof, except by sometimes threatening where the Corcyræans were hard pressed. The battle began with much courage, but little skill: the vessels, as of old, artificially equipped, the decks crowded with soldiers, and the action, to the Athenians trained in the discipline of Themistocles, resembling less a sea-fight than one by land. The Corcyræans were defeated, and driven to the shore; and, in the pursuit, hostilities passed between the Corinthians and Athenians. The Corinthians then set themselves to collect the wrecks and make prisoners of the men who were found on them; most of whom they slew, and among them, ignorantly, some of their own friends, whose vessels had been destroyed by the Corcyræans. In the evening, they again advanced; and

fearing a landing, the Corcyraeans led out their shattered fleet, with the Athenian ships, which would now have given more decided aid; but the Corinthians were deterred from joining battle by the approach of a squadron which proved to be of twenty Attic triremes. The next day, the Corcyraeans, with the thirty Athenian ships, offered battle. Unwilling now to fight, and unable to maintain themselves in their station, the Corinthians resolved to try the disposition of the Athenians; and sent to them, in a boat without a herald, messengers who accused them of breaking the truce by obstructing the movements of the Corinthians, and bid them treat themselves as enemies if they intended to commence a war. The Corcyraeans within hearing called out to kill the messengers, which, considering them as enemies without a herald, would have been within the Grecian laws of war: but the Athenian leaders answered that they were not breaking the truce, but protecting their allies; and that the Corinthians might go whithersoever they would, if it were not against any place belonging to Corcyra. Hereupon the Corinthians went home, as did also the Athenian squadron to Athens.

Potidæa, a town on the Isthmus connecting the Peninsula of Pallene with the confines of Thrace and Macedonia, though a tributary ally of Athens, was a colony of Corinth, and still so far connected with its mother city as to receive thence annually magistrates. It was now urged to revolt by the Corinthians, and by Perdiccas king of Macedonia, who was also endeavouring to stir up a revolt among the other subjects of Athens in his neighbourhood, the Chalcidians and Bottiaens. The Athenians being informed of this, sent a requisition to the Potidæans, to give hostages of fidelity, to demolish their walls on the side towards Pallene, to send away the Corinthian magistrates, and thenceforward to receive none. The Potidæans sent to solicit a reversal of the order, and, at the same time, in conjunction with the Corinthians, secretly negotiated for the support of Lacedæmon. The Athenians refused to relax, and the Spartan administration promising to invade Attica in case the Athenians should endeavour by arms to enforce their demands, the Potidæans engaged in a league with the Chalcidians and Bottiaens, and all revolted together. The Chalcidian Peninsula being open to the

fleet of Athens, Perdiccas proposed to the inhabitants to destroy their towns and abandon their lands; to make Olynthus their one strong-hold; and during the war to remove to a territory, which he would assign for their support, all their people beyond what the defence of the city might require. This measure was adopted, and the greatness of the sacrifice shows that the Athenian sway had been most galling.

The Athenians sent 30 ships to Thrace, and 40 more with 2000 Athenian heavy-armed, when they learnt that the Corinthian Aristeus, with 1600 heavy armed, was on his way to Potidæa. They first attacked Perdiccas, but having soon concluded a treaty with him, they went against the revolted allies. These they found before Olynthus, commanded by Aristeus, and with 200 horse from Perdiccas, who had turned against the Athenians as soon as the pressure of their arms was removed. The Athenians were victorious, their enemies mostly flying to Olynthus, but Aristeus, who had broken and pursued too far the wing opposed to him, taking refuge in Potidæa. They sat down before Potidæa, and being reinforced by 1600 heavy-armed, they were enabled to complete the blockade. Aristeus, having settled matters within, escaped out of the city, and taking the command of the Chalcidians, gave the besiegers some annoyance, and at the same time pressed the Peloponnesians for aid.

The Corinthians now called more loudly for war, and were supported by others, particularly the Æginetans, who secretly, since they dared not openly, complained of their subjection. The Lacedæmonians being met in assembly to hear any charge which might be made against the Athenians, the Megarians, among others, alleged that they were unjustly excluded from the Attic market and the subject ports. Last of all, the Corinthians blamed the general tardiness of Lacedæmon; set forth the dangers arising to Grecian liberty from the insatiable ambition and restless enterprise of Athens; complained of their own particular grievances, and called for assistance to their friends shut up in Potidæa. It happened that Athenian ambassadors were then in Sparta; and they, hearing their city thus accused, demanded a hearing. They would not, they said, answer particularly to charges made before those in whom no right resided to judge between

them and their allies; but they wished to admonish the hearers against lightly determining so great a matter, and to show their city not unworthy of its empire. They spoke of the merits of Athens in both Persian invasions, and the voluntary submission of the allies; and said that, as their sway was honourably won, so in the present temper of Lacedæmon it could not safely be relinquished. They endeavoured to palliate the harshness of their rule; deprecated all breach of the existing truce, and offered to submit all disputes to arbitration, according to the treaty.]]

The foreign ministers being dismissed, Archidamus, the aged king, a wise and moderate man, addressed the assembly. He justified the habitual caution of Lacedæmon, and set forth the dangers and certain evils of war with a state so far superior in wealth and in naval skill and power. In land force, he said, it was true the Peloponnesians had the advantage; but they could only ravage Attica, while the Athenians would be constantly supplied with all they needed from possessions far beyond the reach of their enemies. Finally, since the Athenians were willing to submit to a judicial decision, the appeal to arms would be unjust. The question was put, and the assembly decided that the treaty was broken, and that the allies should be called to deliberate whether war were to be commenced. This took place in the fourteenth year of the thirty years truce, and the forty-ninth after the battle of Salamis. It was followed by a meeting of the allies, which resolved on immediate war. It is the opinion of the discerning Thucydides, that the Lacedæmonians were less determined to hostility by the complaints of their allies than by their own jealousy of the power of Athens.

Unprepared for action, the Lacedæmonians wished to delay the beginning of the war: they also wished to throw on the Athenians the refusal of peace, and, if possible, to throw disension among them. With these views they sent an embassy to Athens on a subject totally unconnected with the present quarrels, but likely to engage on their side the superstition of Greece. Fit atonement, they said, had not been made for the sacrilege of the Alemeonidæ in the sedition of Cylon; and since the curse of sacrilege was held to cleave to all descendants of the guilty, they required that the wrath of the gods should

be averted from Greece by the total expulsion of the polluted race. Of these was Pericles, through his mother; and though they could not hope to obtain his banishment, they yet expected, by alarming the people, to embarrass his administration. It would have been vain to allege the antiquity of the crime, or the innocence of those on whom it was now to be visited; for in the popular faith of Greece, blind fear was predominant over reason and justice: but the demand was easily repelled by recrimination. The Lacedæmonians had two more recent sacrileges unatoned, the starving of Pausanias, in the Brazen House, and the execution of some Helots forced from the temple of Neptune on Mount Tænarus, to which last the great earthquake at Sparta was popularly ascribed. They were therefore required first to expel the accursed families from among themselves.

A second embassy came with a different commission. It required that the siege of Potidæa should be raised and Ægina made free; but chiefly that the decree against Megara should be reversed. The first demands were little pressed, and decidedly rejected; to the third, and principal, the Athenians replied by alleging misconduct on the part of the Megarians, who had cultivated the sacred land on the borders which ought to be inviolate, and received the fugitive slaves of the Athenians. A third embassy, neglecting the former requisitions, demanded, as the one condition of peace, the independence of all Grecian subjects of Athens. The assembly being divided in opinion how to answer, Pericles addressed them. He exhorted them resolutely to withstand the imperious demands of the ambassadors, since one concession to fear would embolden the Peloponnesians to dictate new submissions without limit; and he showed that the war was more to be dreaded by Lacedæmon than by Athens. Inferior in shipping, and still more in seamanship, the Peloponnesians never could cope with them at sea; they might ravage their lands, but the Athenians could retaliate, and the ravage of all Attica would be a smaller calamity than that of a part of Peloponnesus. "If we were islanders, who," he asked, "would be so proof against attack? Let us then be islanders in our policy, giving up our lands and houses, and only solicitous to defend the city and

command the sea : and let us not squander the lives of men, on whose exertions our empire depends, in a doubtful attempt to preserve for a time a territory of which the loss is little important, and to repel an invasion which, if repelled, will soon be repeated with no less a force. I have many other grounds to hope success, if you be but willing not to seek fresh conquests during the war. To the embassy let us answer, That we will admit the Megarians to our markets and ports, if the Lacedæmonians will abrogate, as far as respects ourselves and our allies, the law excluding strangers from their city ; for neither of these points is provided for in the treaty : That our subject cities shall be independent, if they were independent at the making of the treaty ; and if at any time the Lacedæmonians shall permit their allies to settle their respective governments in their own fashion, and not in that most agreeable to Lacedæmon : That we are willing, according to the treaty, to submit our disputes to a fair arbitration : and that we will not commence a war, but we will resist, if others commence it." The foresight of Pericles is worthy of remark, since we shall find that Athens was with difficulty prevented from triumphing by gross errors of conduct, and particularly by that rashness and wild thirst of conquest which he deprecated. The answer was framed according to his suggestion : That the Athenians would do nothing on command ; but that they were willing to abide by a judicial decision according to the treaty.

CHAPTER VI.

Of the Peloponnesian War.

SECT. I.—Thebes had ever been accustomèd, as the leading city of Bœotia, to claim political and military command over all the rest. The Platæans had refused submission, and stood upon their independence as a separate state ; and, at an early period, finding themselves unable to resist the overwhelming power of the Thebans, they had sued to Lacedæmon for aid. It did not then agree with the views of the Lacedæmonians to engage in the concerns of a region so distant as Bœotia, and they therefore advised the suppliants to make their request to the Athenians, who were a powerful people and near at hand. The Platæans did so, and met with prompt and effectual aid from Athens :

in return for which they gave their heartiest service in all the wars and dangers of their protectors. The Thebans were now sure of war with Athens ; they had often been annoyed by the hostility of the Platæans, and always had ill brooked their assertion of independence ; and, hoping to secure the town before the general struggle broke out, they listened to some Platæan malcontents, who offered to introduce their troops into the city. Three hundred were sent, who entered by night the more easily, as no watch was set, for it was considered a time of peace. Their introducers wished them to proceed to the massacre of their chief enemies ; but they preferred to gain the city peaceably if possible, and taking ground in the market place, they made proclamation that those should join with them, who wished to be leagued with all the Bœotians according to the custom of their fathers. Dismayed at the sudden attack, the Platæans listened to their proposals, till they discovered the small number of the invaders ; but, finding this, they assailed them while perplexed by the darkness in their ignorance of the streets. The Thebans were defeated, and most of the survivors obliged to surrender at discretion. A Theban army following to support the detachment received, while on the march, the news of its destruction ; and when the leaders were determining to seize on any Platæans found without the walls, as pledges for the captured Thebans, a Platæan herald arrived to rebuke their treacherous aggression, and to declare that, if they did any injury, the prisoners should instantly be put to death. The Thebans retired ; but the Platæans, in the violence of their resentment, proved false to the promise, which, if not expressed, was implied in their threat, and all the prisoners were executed, in number one hundred and eighty.

A messenger had been sent to Athens with the news of the surprise, and the Bœotians in Attica were arrested : a second to tell of the capture of the Thebans ; and directions were returned to keep the prisoners safe till the Athenians should determine of their treatment. Unfortunately, they were already dead. An Athenian army now conducted to Platæa a convoy of provisions, and having left a detachment to assist in the defence, brought away with it the women and children, and men unfit for war.

The Lacedæmonians were exerting

themselves to the utmost in preparation. Ambassadors were sent to Persia, chiefly in hope of pecuniary aid. A fixed money contribution was appointed to be paid by each of the allies, and it was proposed that five hundred triremes should be raised for the maritime states, besides those expected from the Italian and Sicilian Greeks, who mostly favoured their cause. The league included all the Peloponnesians, except the Argians and Achaïans, who were neutral; and nearly all the states of northern Greece, except the Thessalians and Acarnanians. These sided with Athens, the former coldly, but the latter more heartily; and by their friendship, with that of Corcyra and Zacynthus, and with the town of Naupactus held by the Messenians, who owed their very existence to Athenian protection, the Athenians were enabled to carry on the war in the western seas. Corcyra, Chios, and Lesbos, furnished ships to Athens, and were treated as independent: the remaining islands of the Ægean, except Melos and Thera, with all the Greeks of Asia, and all in Thrace but those who had recently revolted, were tributary subjects, deprived of ships of war, and liable to unlimited control.

In spite of a more cultivated humanity of manners, and a religion so pointedly opposed to violence and bloodshed, that by some it has been construed to forbid even necessary defence, nearly every war has been popular in the outset, even in the states of civilized and Christian Europe. The Greeks were ardent lovers of military fame, and little imbued with universal justice and philanthropy. The utmost extent of their political morality went no further than patriotism and fidelity to contracts; few even of deep thinkers held it a duty to respect the happiness of mankind, or felt the wickedness of unnecessary war. It is not then wonderful that the call to arms should have been generally welcome, when, in fourteen years, the youth had grown up inexperienced in the sufferings of war, but proud of the glory of their fathers, and eager to emulate their deeds. All Greece was in anxiety; oracles and predictions without number were circulated; and every uncommon natural phenomenon was made a presage of the event. The general wish was favourable to the Lacedæmonians, who professed to uphold the liberty of Greece. The subjects of Athens were eager to be liberated, and those who were yet free were fearful of being subjected; and thus, as

she rose to empire through the tyranny of Pausanias, she seemed likely to fall from it through her own.

The Peloponnesians advanced under king Archidamus, but, before they entered Attica, a Spartan minister was sent to try whether the Athenians would yet recede in their pretensions. The messenger was not admitted to a hearing, but was sent away with the declaration that, if the Lacedæmonians wished to make any proposal, they must first withdraw their army. Having received this answer, Archidamus crossed the Attic border.

Pericles was one of the ten generals of Athens. His office enabled him to call at his discretion extraordinary assemblies of the people; and this, with the power of guiding their proceedings by his eloquence and popularity, gave him, in effect, the supreme direction of the state. In an assembly held while the Peloponnesians were gathering, he endeavoured to prepare the people for the war. Apprehending that Archidamus might spare his lands, either for private friendship which existed between them, or by command of the Lacedæmonians, to make him suspected in Athens; he declared that if his estates met with any distinguishing forbearance he would resign them to the public. He exhorted his hearers to secure their moveable property in the city, and avoiding a battle, to look to the maintenance of their naval strength and foreign command, the chief sources of their greatness. He then stated the amount of their means. Besides other revenues, the yearly tribute from the allies was now six hundred talents, about one hundred and fifty thousand pounds. The treasury contained six thousand talents in coined money, and there was uncoined gold and silver in sacred vessels, offerings, Persian spoils, &c. to a vast amount. The native heavy-armed troops were twenty-nine thousand men. The cavalry, with the horse bowmen, were twelve hundred; the foot bowmen, sixteen hundred. Besides there would be numerous light armed, chiefly slaves. The triremes fit for service were three hundred. It is not stated what additional force was supplied by the allies.

The Athenians brought into the city their families and furniture, and sent their cattle to Eubœa and the other neighbouring islands; reluctantly, for they were beyond all other Greeks attached to a country life. The ravages of

the Persians had been repaired, the houses rebuilt, and many with expensive improvements, all which would now again be ruined. They regretted the temples, and the old religious observances of the several towns, inherited from times before the union effected by Theseus. The actual distress was great. Many fell from competence to poverty by the cessation of income from their estates. The city was filled with a multitude far greater than the houses could contain: some found shelter in the temples, some in towers of the walls; the rest were huddled in open spaces of the city and the Peiræus, and on the ground between the long walls. Nevertheless, they applied themselves vigorously to warlike preparations, and a fleet of one hundred ships was made ready to act against Peloponnesus.

The advance of Archidamus was retarded by the hope that the Athenians, while their property was yet undamaged, might offer concessions to preserve it. No offer coming, he proceeded to Eleusis, and sitting down there, wasted the rich Thriasian plain; then to Acharnæ, the largest parish of Attica, and within six miles of Athens. The Acharnians were a numerous and powerful body, and furnished alone three thousand heavy armed; and he thought that they might prevail with the people to risk a battle, or if not, when they had lost their property, they would be less warm in defending that of others, and he might pursue his operations more securely. Athens was all confusion. The Thriasian plain had been ravaged by Pleistoanax; but never before, since the Persian war, had an enemy come in sight of Athens. Some cried out for battle, particularly the Acharnians; others opposed a measure so perilous; but all agreed in censuring Pericles as the cause of their evils. Pericles stood firm, and would not call an assembly, since it would probably have voted to risk an immediate engagement; but he sent out parties of cavalry to cut off stragglers, and to prevent the extension of ravage to any distance from the camp; and in an action with the Boeotian horse, the Athenians had the advantage. Having wasted the Acharnian vale, and vainly sought a battle, the invaders carried devastation to Oropus, at the eastern extremity of Attica, and thence passing into Boeotia, returned home.

Meanwhile, the one hundred Athenian ships, with fifty Corcyraean, and a

few from other allies, sailed round Peloponnesus, and wasted much of its western coast. Passing on, they took Astacus, in Acarnania, expelled its tyrant, and establishing democracy, admitted it to alliance; and without hostility brought over to their interest the large island of Cephalonia.

The Athenians voted to set aside one thousand talents as a reserve for extremity, and denounced death to whoever should propose to touch it unless the city should be attacked by sea; an event implying the prior ruin of the Athenian navy, and the only thing, as it was thought, which could destroy the commonwealth. One hundred triremes were set aside for the same emergency. The Æginetans were known to have been active in kindling the war, and their inveterate hostility was peculiarly dangerous from the situation of their island. By a harsh measure, but one which seems, according to Grecian maxims, not to have exceeded what the provocation might justify, the whole free population was expelled, and a colony of Athenians occupied the lands and houses. Thus the island was garrisoned without expense, and the city relieved of part of the multitude which crowded it. Most of the Æginetans were established by the Lacedæmonians at Thyrea, on the confines of Argolis and Laconia. The Athenians had successfully negotiated with Sitalces, the powerful king of Thrace, who became their ally, and effected peace and alliance between them and Perdiccas.

Winter setting in, all Greece was quiet, except the western coast, where a Corinthian squadron restored the tyrant of Astacus. At Athens, the funeral of those who had fallen in battle was, according to custom, publicly solemnized, and Pericles being appointed to pronounce their funeral oration, delivered a speech which has been reported by Thucydides. As this and some other speeches of Pericles are the earliest extant specimens of Grecian eloquence, so they may justly take their rank among its greatest masterpieces.

In the first campaign, the ravage of Attica had been retaliated with not less effect, and with far smaller expense and trouble. But in the following year, just as the Peloponnesians had commenced a second inroad, Athens was visited with a scourge more terrible than they. A pestilential fever, originating in Ethiopia, had been felt in Egypt and many

parts of Asia, when it fell on Athens with fury before unknown. It began with heats in the head, and inflammation in the eyes; the tongue and throat were bloody, the breath fetid; then came sneezing, then laborious coughing; then excessive evacuations in all ways, followed by violent hiccups and spasms. The skin was reddish and full of ulcers, but not outwardly hot; though the internal fever was such that the patient could not bear the lightest covering, and many threw themselves into the wells for relief. Thirst was unquenchable, and sleep there was none, yet the sufferers were less weakened than might have been expected. The fever lasted from seven to nine days; but many who survived it perished by the ulceration of the bowels, and the flux which followed. The disease passed from the head through the whole body, and finally fixed in the extremities, which many lost. Some were totally deprived of memory, and recovered, not knowing their nearest friends, nor even themselves. Birds and beasts of prey would not touch the corpses, or, tasting them, they perished. No remedy was found for the disease. Its virulence was increased by the uniform despondency of the sufferers; and they died neglected, or if any ministered to them, he caught the infection. Those only who had passed through the malady, could attend with safety on the sick, since they were not again liable to it in a fatal degree. The evil was increased by the crowded state of the city. Dying men lay heaped in stifling huts, or in the streets, and about the fountains, whither they thronged to drink. The temples were filled with corpses, and means were wanting for the burial of the dead.

The worst effects of the calamity were unbounded licentiousness and desperate thoughtlessness. Men said in their hearts "Let us eat, drink, and revel, for to-morrow we die: why spare health or fortune, which we shall not live to enjoy?" Rich houses were made desolate, and poor men, suddenly enriched, abused their wealth in riot and debauchery. Men's affections were blunted, and their natures brutalized, by tumultuous revelry, when all were perishing around them, and when the riches they squandered were derived from the recent death of those who had been most dear to them. No fear of God, or the laws, deterred from crimes that promised the means of immediate pleasure. Untaught by their

religion to look to the Divinity for aught but worldly blessings, they saw no distinction between the righteous and the wicked, when the pestilence was fatal to both; and the laws were impotent, since no one expected that he would live to suffer their sentence.

At this time of misery, Pericles adhered to the policy he had chosen. He would not hazard a battle, but suffered the Peloponnesians to ravage Attica, while their own country was wasted yet more extensively than before by the Athenian fleet. But the spirit of the Athenians was broken: they made proposals of peace, which were haughtily refused; and the shame of failure concurred with previous suffering to raise their anger against Pericles, as the author of their misery. Pericles called an assembly to encourage them, and justify himself. He re-stated the reasons for war, which had before determined them, and which now had lost no force; reminded them that he had warned them of all their present sufferings, except the pestilence, which no human wisdom could foresee; repeated that, if they now gave way, they must be subject to Lacedæmon, and on harder terms than if they had yielded at first; and showed that, with firmness, they might still prevail. His arguments persuaded them to maintain the war, but their anger for their individual losses did not subside till they had fined him heavily; yet so convinced was the capricious multitude of his superior merit, that they soon re-elected him general, and put everything under his direction.

In the autumn, there fell into the hands of the Athenians some Peloponnesian ambassadors sent to Persia. Among them was Aristæus, who had chiefly managed the revolt of Potidæa; and the fear of further damage from him was a leading motive in the cruelty which followed. The ambassadors were put to death unheard, under the plea of retaliation for the atrocious conduct of the Lacedæmonians, who, since the war began, had massacred the crew of every merchant ship they met with, whether of the Athenians or their allies, or even of neutrals. In the ensuing winter, Potidæa surrendered, on the terms that the garrison and people should be dismissed in freedom. The territory was occupied by a colony of Athenians.

Pericles died soon after through the pestilence; and after his death, Thucydides observes, his foresight was made

manifest. "For he said that the Athenians would prevail in the war, if they attended to their navy, made no new conquests, and incurred no needless dangers: but they did just the contrary, and besides committed many other faults, both among themselves and against their allies, at the persuasion of ambitious and interested men. And the reason of the difference was, that he being powerful by ability, reputation, and pre-eminent integrity, was not obliged to humour the people, but able to direct them; whereas those who followed being more on a level with each other, and each aspiring to be first, courted favour by advising not what was best, but what was most agreeable. Yet the Athenians, after squandering unprofitably the best of their strength, and provoking new and powerful enemies, were with difficulty overcome when weakened by internal strife; so more than verified was the assertion of Pericles that, with prudence, they were a match for the Peloponnesians."

In two invasions of Attica, the Peloponnesians, with great expense, had caused much individual suffering, but had failed to provoke a battle, and had little weakened the adverse state. The next summer they entered not Attica, but laid siege to Plataea. The Plataeans remonstrated, urging the merit of their commonwealth in the Persian war, and the perpetual protection assured to them by Pausanias, in the name of Greece. Archidamus, who commanded the Peloponnesians, offered neutrality; and when they said they could not trust the Thebans for observance of the terms, his answer was, "Entrust to us your lands and houses, show us the boundaries of the lands, and number the fruit trees; and sojourn where you please till the war is over, when all shall be restored; till then, we will cultivate the land, and provide for your subsistence." The Plataeans consented, provided the Athenians were willing; but deputies being sent to Athens, brought a requisition to abide by the terms of their alliance, and a promise of aid. They, therefore, declared themselves unable to comply with the demands of the Lacedaemonians; and Archidamus, solemnly protesting that the breach of faith was on the side of Plataea, commenced the siege. The mode of attack was rude and unskilful, the garrison active and vigilant; and the besiegers were obliged to resort to blockade. All useless mouths having been sent to Athens, there were in the

place but four hundred Plataeans, eighty Athenians, and one hundred and ten women, to make bread.

Meanwhile, an Athenian army had been beaten by the Chalcidians of Thrace, and an attempt had been made against the power of Athens in Western Greece. The Ambraciots, a Corinthian colony to the north of Acarnania, with the Leucadians and Anactorians, one thousand Peloponnesians, and some of the neighbouring barbarians, invaded Acarnania; but the barbarians, rashly separating themselves, were defeated, and the expedition failed. Of one hundred ships equipped last year by the Peloponnesians, forty-seven being sent from Corinth to co-operate with the force in Acarnania, were intercepted by Phormion, who was stationed with twenty Athenian ships at Naupactus. Confident in his own ability, and the skill of his crews, he met them, and confounded them with his manœuvres, sunk their admiral, and routed them, taking twelve ships. The Peloponnesians sent out seventy-seven ships to retrieve their defeat, yet, with these, they feared to meet the small squadron of Phormion in the open sea. At length, they entrapped him in the entrance of the bay, where there was not room for his superior manœuvring. Nine Athenian ships were taken or forced aground, some of which were recovered by the Messenians on the shore, dashing into the water, and fighting from the decks: eleven fled towards Naupactus, pursued by the Peloponnesian advanced squadron of twenty ships. The hindmost of these eleven was nearly overtaken by a Leucadian trireme, when it turned round a large vessel at the entrance of the port, struck its pursuer on the side, and sunk it. The Peloponnesians stopped in confusion and alarm, and the eleven Athenian ships, advancing in order, had an easy victory. The Athenians took six ships, and recovered all which had been taken from them, save one.

A project was suggested to the Lacedaemonian commanders, by which they might partly cover their disgrace. Being told by the Megarians that the Athenian government, secure in naval superiority, left Peiræus little guarded, they determined to surprise it. A body of seamen crossing the isthmus, launched forty triremes laid up in Nisæa, and stood towards Attica; but a contrary wind arising, they feared they might be too late for surprise, and, instead of sailing for Peiræus, they landed on Salamis, and

ravaged it. The time thus wasted saved Peiræus. The alarm in Athens was excessive, at sight of the beacon fires, which announced the presence of an enemy. All hurried in arms to the port, the ships were launched and manned, and stood for Salamis; but the Peloponnesians, not awaiting them, returned to Nisæa with much booty, some prisoners, and three empty *irèmes*, not without fear that their leaky vessels might founder on the way. Henceforward, the Athenians kept better guard in their harbour. The Peloponnesian fleet having dispersed, the winter was spent by Phormion in strengthening the Athenian interest in Acarnania, by confirming the power of the friendly party in the towns, and banishing the most obnoxious men.

Perdiccas of Macedonia had again changed sides, and Sitalces attacked him, at once to fulfil his engagements with Athens, and to punish a breach of faith to himself. The Thracians were a barbarous, but bold and hardy race; and however inferior in discipline and skill, their numerical superiority was such that the Macedonians could not keep the field. Sitalces overran and wasted Macedonia and Chalcidice; but his army suffered through hunger and wintry weather, and he retired without making any permanent conquest.

The next summer Attica was again invaded by the Peloponnesians; and soon after all Lesbos but Methymne revolted from Athens. The island was divided into six republics, of which Mitylene and Methymne were far the most powerful. Methymne was zealous for democracy and Athens; but in Mitylene the oligarchical party was strong; and this, with the hope of undisputed rule in the island, and the fear that they might be like others deprived of their fleet and reduced to subjection, disposed the Mitylenæans to revolt. They increased their navy, strengthened their defences, and laid in stores for a siege: they had already influence in the smaller states, and they now improved it to a strict union. But before their preparations were completed, the Athenians being informed by the Methymnæans, and some of the democratical Mitylenæans, commanded them to desist: and their refusal brought an Athenian squadron of 40 triremes. The Mitylenæans endeavoured to gain time by negotiation: but the only terms of pardon now were the surrender of their navy, and the de-

molition of their walls. All Lesbos declared for Mitylene, except the Methymnæans, who joined the Athenians with their whole force. After an indecisive engagement in the field, the Mitylenæans retired within their walls, and the siege was formed.

Ambassadors from Mitylene, arriving at Sparta, were sent to sound the allies at the Olympian meeting. At a conference held after the solemnities, it was resolved to aid them by again invading Attica: and the fleet which lay in the Corinthian gulf was carried across the isthmus, to co-operate with the land force. Dispersed in the Grecian seas as was the navy of the Athenians, it was thought they could not meet the attack but by withdrawing the squadron from Lesbos; but they launched 100 triremes which lay ready in Peiræus, displayed their force before the astonished enemies, who ventured not to quit their ports, and made descents where they would on Peloponnesus. The Peloponnesians were busy with their harvest, and weary with fruitless inroads; and intelligence coming that an Attic squadron was ravaging Laconia, the invasion was given up, and the Lacedæmonians went home.

The armament in Lesbos being so inadequate to its purpose that the Mitylenæans kept the field, Paches was sent with 1000 heavy-armed to take the command, and his arrival again confined them to their walls. The Athenian treasury was exhausted with the war, and a contribution was now first collected from the citizens, apparently as a free gift. At the same time ships were sent to levy money from the allies.

In the following summer, the fifth of the war, the Peloponnesians ravaged Attica more destructively than in any invasion but the second, and sent Alcidas with 42 ships to Mitylene. In the winter, Salæthus, a Lacedæmonian, had brought assurance of such an aid; but as the year advanced, even he began to despair of it. He thought that by giving the armour of the phalanx to the lower people, who, as in most oligarchical states, were only allowed to act as light-armed, the Mitylenæans, instead of starving in their walls, might keep the field. The thing was done—but the people, no longer awed by the monopoly of arms and discipline in the privileged class, claimed a part in the government, demanded a public and equal distribution of food, and threatened, if refused, to make their own terms with the besiegers.

The leaders being alarmed capitulated for all on these hard terms:—That the Mitylenæans should surrender themselves to the pleasure of the Athenian people—that the Athenian army should immediately be admitted into the city—and that none should be put into bonds, enslaved, or killed, till the will of the people was known.

When Alcidas heard that Mitylene was taken, some advised him to attempt its recovery, by surprising the Athenians while ignorant of his arrival; others to seize some city in Ionia, and issuing thence to win that country from Athens. But Alcidas was only anxious for a safe return. Instead of going on to Lesbos, he coasted in the opposite direction, taking many merchant vessels, which fearlessly approached, the crews supposing that any ships of war in those seas must be Athenian. All the prisoners he massacred, according to the savage practice of the Lacedæmonians from the beginning of the war, till, at the remonstrance of some Samians, he changed his conduct. But as soon as he found that the Athenians in Lesbos had heard of him, he sailed directly for Peloponnesus. The alarm of his presence had been great in Ionia, as the towns were kept unfortified lest they should assert independence. Paches pursued, but could not overtake him, and returned to Mitylene, whence he sent to Athens the chief promoters of the revolt.

The Athenians were highly enraged against the Mitylenæans, both because they had revolted, being exempt from the galling yoke imposed on most of the allies, and because they had first brought a Peloponnesian fleet on the coast of Asia. In their first fury they voted death to all the grown up citizens, and slavery to the women and children. On the morrow, the people seeming dissatisfied with their vote, at the instance of some friends to the intended victims, a second assembly was called. The chief supporter of the vote was Cleon, a profligate demagogue, with little ability in the conduct of affairs, a coarse but ready speaker, and skilful in flattering the worst passions of the populace. He dwelt on the mischiefs of lightly changing purpose, and the necessity of a terrible example to check the spirit of revolt already prevalent in the subjects of Athens; and laboured to inflame the people by setting forth the privileges which the Lesbians had enjoyed. His opponents argued that no severity of punishment could prevent revolt when

inclination and opportunity concurred; that revolvers shut out from pardon would be the more obstinate; that it was unjust to visit the fault of the ruling few on the people, who, when arms were given them, had compelled submission; and that such an act would destroy the good will of the commonalty, in every state the main prop of the Athenian interest. The friends of mercy prevailed, and a trireme being sent with a countermand, arrived just as Paches had read the first order and was about to execute it. The men whom Paches had sent were put to death, in number near 1000. The walls of Mitylene were razed, the ships of war given up; and the lands of all the Lesbians except the Methymnæans, being divided into lots, were assigned to Athenians, but were occupied by the Lesbians, paying each a yearly quit-rent to the lot holders.

In the preceding year provisions had begun to fail the Platæans; and seeing that Athens would not venture an attack on the besieging army backed by all Bœotia, they planned an escape. Full half were discouraged, but by the rest the plan was gallantly executed as it had been ably conceived, and passing the lines by night with the loss but of one man, they came safe to Athens. In spite of the relief thus given, the remaining garrison were now brought so low by famine that they could not defend the walls. The Lacedæmonian general had been ordered to win the place by capitulation, if possible, that so Platæa might be retained, though all conquests made by force should, at the peace, be mutually restored. He therefore sent a herald to propose to the Platæans, that they should surrender their city and submit to the justice of Lacedæmon, so that the guilty should be punished on trial, but none otherwise. The Platæans consented, and commissioners were sent from Lacedæmon to try them; who without stating any accusation, asked each whether in the war he had done any good to the Lacedæmonians or their allies. The Platæans requested to answer more at length: they stated the ancient merits of their city, the ties of necessity and gratitude which bound it to Athens, the treacherous attack of the Thebans which forced it into war. The Thebans replied, asserting that the Platæans had wrongfully deserted Bœotia for Athens; they justified their late interference as a friendly act invited by the best of the

Platæans ; and complained of the faithless massacre of their prisoners. As if to make it evident that the fate of the Platæans had been predetermined, the judges, without weighing the arguments, merely repeated their question. None could say yes, and all were led to death. Thus perished 200 Platæans and 25 Athenians, by an act which, though less extensively bloody than others in this same war, can scarcely be paralleled in any history for deliberate baseness and impudent mockery of justice. The women were made slaves, and the town demolished by the Thebans.

Meanwhile attention was called by the troubles of Corcyra. Many noble Corcyræans, prisoners in Corinth, had been won by kind treatment, and set free under a secret engagement to reconcile their country with the Corinthians. Through their intrigues the assembly voted that the Corcyræans, retaining the alliance with Athens, would yet remain at peace with the Peloponnesians. They went on to prosecute Peithias, the head of the democratical party, as enslaving Corcyra to the Athenians ; but he being acquitted, and retaliating on his accusers with an improbable charge of sacrilege, the five richest were condemned to a ruinous fine ; and hearing that the influence of Peithias withheld all mitigation, and that he was persuading the people to an alliance, offensive as well as defensive, with Athens, the party suddenly collected, and entering the council-hall with daggers, killed Peithias, and about sixty of his friends. Then assembling the people, they declared that what had been done was the only method of preserving freedom to Corcyra, and, under the terror of the recent massacre, obtained a vote of neutrality in the war. Ambassadors being sent to make their apology in Athens, were there arrested as rebels.

To confirm their insecure ascendancy, the oligarchical Corcyræans attacked their opponents. Both offered freedom to any slaves who would join them, but most took part with the people, who, strong in numbers and position, and in zeal so vehement that the very women were active in the fray, on the third day prevailed so far, that their opponents could only cover their retreat by firing the quarter of the town where they dwelt. The next day the nobles were saved from massacre by the coming of Nicostratus, the Athenian commander in Naupactus, who mediated an agree-

ment, on the terms that ten only who were named should be brought to trial, and the rest should live as citizens under a democracy. Even the ten excepted were suffered to escape, and all seemed quieted without further bloodshed, when, as Nicostratus was departing, the popular leaders requested him to leave, for greater security, five of his twelve triremes, taking instead as many Corcyræan. He consented, and they named their enemies to go in the vessels ; but these refused, fearing, in spite of the assurances of Nicostratus, that they would be sent to Athens. Their obstinate mistrust raised suspicion in the people, who rose and searched their houses for arms ; and, alarmed at this, four hundred of the nobles took sanctuary in the temple of Juno.

Four or five days after came a Peloponnesian fleet of fifty-three ships, under Alcidas. The Corcyræans put forth sixty triremes, two of which deserted, and in some the crew went to blows among themselves. The Peloponnesians seeing their confusion, sent twenty ships against the Corcyræans, and opposed with all the rest the Attic twelve. Nicostratus nevertheless had sunk one ship, and was acting with advantage against the rest, when the other twenty came to aid them ; and he then retreated in order, covering the flight of the Corcyræans, who had lost thirteen triremes. The Corcyræan people, now in fear lest the enemy should attack the city, endeavoured to accommodate matters with their party opponents, and prevailed on some to serve in the fleet ; but Alcidas wasted his time in indecisive measures, till finding that an Athenian fleet of sixty ships was approaching, he hastily departed.

The democratical Corcyræans now prepared a horrid revenge for their terrors. The ships were ordered to sail round from one harbour to the other, and in the voyage all who were in them, of the oligarchical party, were thrown overboard ; and at the same time a massacre was commenced in the city. The case of the suppliants of Juno gave more difficulty ; treachery and cruelty cost but little, but to violate a temple was a serious thing. About fifty were persuaded to come out and stand a trial. All these were condemned to death, and their fate completed the despair of those who had remained. Some stabbed themselves, some hung themselves on the trees ; others mutually killed each

other; all perished in the temple. Unlike Nicostratus, Eurymedon, the new Athenian admiral, lay a quiet spectator in the harbour, while the Corcyreans, for seven days, were hunting out and murdering all whom they held their enemies. Under colour of treason to the democracy, many were slain by their private enemies, and many debtors wiped out their score with the blood of their creditors. In the words of Thucydides, whatever is wont to happen in such cases took place, and yet more. About five hundred of the persecuted party escaped to the continent, and after the departure of Eurymedon, seizing the forts there belonging to Corcyra, kept up a predatory war so successfully as to cause a famine in the city. Afterwards, with a few auxiliaries, they passed into the island, burning their vessels that their only hope might be in victory. They fortified themselves on Mount Istone, and thence commanded the country.

The pestilence in Athens, after raging two years unabated, had slackened for a while; but this winter it renewed its fury, and continued it for another year. In its whole course it cost Athens no less than 4400 heavy-armed soldiers, and 300 horsemen, and of the remaining multitude a number not to be reckoned.

In the next summer the Peloponnesians, preparing to invade Attica, were deterred by earthquakes, an ill omen according to the superstition of the age. Various actions took place with no decisive result. In the west Demosthenes, the son of Alcisthenes, commanding thirty Athenian ships, was joined by the Acarnanians and other allies, and marched against Leucas. He ravaged the territory unopposed, and the Acarnanians wished him to wall in the town, thinking that when that was done they could reduce it by blockade, and be delivered from a neighbour always hostile. The Messenians of Naupactus urged him to attack their constant enemies the Ætolians, whose reduction would make easy the extension of Athenian influence through all western Greece. Demosthenes was led to adopt the suggestion of the Messenians both by the favour due to their zealous service, and by the hope that the conquest of Ætolia would open a way into Phocis, by which the force of the western allies might be brought against Bœotia. The Acarnanians left the army in disgust, but with the rest he pursued his project.

The Ætolians were a rude but nume-

rous and warlike tribe, dispersed in un-walled villages, and too poor to use the arms or cultivate the discipline of the phalanx, but formidable in their own rugged country from their skill in handling the dart, and activity in skirmishing. Some of the Ozolian Locrians, neighbours of the Ætolians, and trained in a like mode of fighting, being allied with Athens, were appointed to meet the army of Demosthenes; but they did not arrive in time, and by their failure, and the defection of the Acarnanians, whose light-armed troops were numerous and excellent, his men were few, and almost entirely heavy-armed. He advanced, meeting nothing that could stop his march; but the Ætolians had assembled on the heights, and gave great annoyance, running down and throwing their darts, retiring when the enemy advanced, pursuing when he retired, and having in both, with their light armour, certain advantage. The few Athenian bowmen kept them off awhile, till, weary with long exertion, their arrows nearly spent, and their commander slain, they took to flight. The heavy-armed, left a prey to enemies whom they could not reach, were broken, and fled. Incumbered with their armour, and pursued by active men, numbers were killed. Their guide fell early. Many strayed into impassable ravines, and a large body entering a wood, the Ætolians fired it, and all were destroyed. Of 300 Athenians, heavy-armed, 120 were slain, the prime of all the Athenian youth who fell in the war. Of the allies a large proportion perished. The fleet sailed home, but Demosthenes remained at Naupactus, fearing to meet the people.

The Lacedæmonians were now persuaded by the Ætolians to attempt the conquest of Naupactus, and 3000 heavy-armed of the allies were sent against it, under Eurylochus, a Spartan. The Ozolian Locrians were easily brought to submission, and through them the army passed into the territory of Naupactus. The town was in danger, being large, and the defenders few; but Demosthenes had gone to the Acarnanians, and though ill received at first on account of Leucas, had prevailed on them to send 1000 heavy-armed, whose entrance saved the place. Eurylochus retiring was invited by the Ambraciots to assist them in conquering the Amphilochian Argos, as the first step towards the reduction of Acarnania: and till the time came, he quartered his army in Ætolia.

Late in autumn 3000 heavy armed Ambraciots entering the Argian territory seized the hill fort of Olpæ. The Acarnanians, feeling that their own citizens wanted large political and military experience, offered Demosthenes the chief command, in spite of their late defeat, and their variance with him. Eurymachus having joined the Ambraciots, the combined army was decidedly superior; but an ambush ably planned by Demosthenes gave him the victory. Two of the three Spartan generals being slain, Menedæus the third, unprovided for a siege, and without a way of escape, proposed on the next day to treat; but all he could obtain was, that the Peloponnesians might depart with speed and secrecy, leaving the others to their fate. By this Demosthenes and the Acarnanians hoped to have the Ambraciots at their mercy, and to make the Peloponnesians odious for selfishness and treachery. The Peloponnesians went out in small parties as for herbs and firewood; but when they were at a distance the others followed in alarm. Both were at first pursued by the Acarnanians, some of whom, when the generals interfered, were on the point of killing them, thinking the public betrayed. When the matter was explained, they let pass the Peloponnesians, but killed the Ambraciots. About 200 were slain, the rest escaped. The Ambracian people learning that their troops held Olpæ, had followed with their whole remaining strength. Demosthenes surprised their camp at day break, and but few returned to Ambracia.

Could Demosthenes have led the allies at once against Ambracia, it must have fallen: but they well knew that were there no western city connected with the Peloponnesians, their friendship would cease to be necessary to Athens, and they would be oppressed. Demosthenes now returned with confidence to Athens. After his departure the Acarnanians made peace and alliance with Ambracia for a hundred years, on the terms that neither the Ambraciots should be required to act offensively against the Peloponnesians, nor the Acarnanians against the Athenians; the Ambraciots should give up whatever they had taken from the Amphilocheians, and should not assist the Anactorians, who were hostile to Acarnania. This moderation established to the Acarnanians for a long time a degree of quiet unusual in Greece, and contri-

buted to the character of benevolence and uprightness which long distinguished them.

The greatest cities of Sicily were Dorian, and allied with Lacedæmon. In the fifth year of this war, the Ionian states, attacked by Syracuse and the Dorian league, had besought aid of Athens. The request was recommended by kindred and old alliance, and by the wish to employ the Sicilian Dorians at home, that they might not send supplies to Peloponnesus. Twenty ships were dispatched, which at first commanded the sea; but the Athenians hearing that Syracuse was raising a navy, sent forty more in the seventh spring. Eurymedon and Sophocles, the commanders, were directed on the way to succour Coreyra against the exiles, to whose aid a Peloponnesian fleet was known to be going; and Demosthenes, embarking without any regular command, was authorized by the people to employ the fleet as he might think best, as it coasted Peloponnesus.

Demosthenes required the generals to land at Pylos* in Messenia; but hearing that the Peloponnesian fleet was at Coreyra, they refused. A storm forced them into that port, and Demosthenes bid them fortify the place, for this was the end of his commission. The harbour was excellent, though like all the neighbouring country it had been deserted since its conquest by Lacedæmon; and Demosthenes wished to garrison it with Messenians from Naupactus, who would zealously maintain it as by right their own, and whose Doric speech gave great advantage for incursions into Laconia. The generals ridiculed the project, and he appealed to the soldiers; but vainly, till, foul weather continuing, for amusement they took to building the fort. They had no tools, but they picked up stones and laid them together, using clay for mortar, which, for want of better means, they carried on their backs, stooping forward, and clasping their hands behind them. Much of the fort was strong by nature, and in six days they rudely walled the rest. The generals now proceeding left five triremes with Demosthenes.

The news was heard at first with scorn in Lacedæmon; but the army, which had invaded Attica, hastened

* Pylos. The modern Navarino, a scene of action equally remarkable in ancient and in very recent history.

home in alarm, having been but fifteen days in the enemy's country. On its return a force was sent against Pylos, the fleet was called from Coreyra, and Demosthenes was blockaded by land and sea, having just time to send to Eurymedon. The fort was attacked on both sides, but towards the land the ground was strong, and, on the side towards the sea, by skilfully using the difficulties of the shore, he was enabled with his handful of men to prevent a landing. On the third day the Athenian fleet came in sight. The harbour was shut in by the woody island Sphacteria, which left a narrow entrance on each side. In this the Lacedæmonians had placed a body of troops, proposing to block up both the inlets, and post troops in every spot where the Athenians could land. Afterwards they resolved to engage in the harbour, favoured by the narrow space and the surrounding army. But on the fourth day, while they were getting out their ships, the Athenians entering at both the mouths, attacked those under way, took five, and chased the rest to the shore. The Lacedæmonians dashed into the water, and, after hard fighting, the Athenians drew off with only the five first taken. Eurymedon now became master of the sea; and occupying the strait, kept strict watch on those in the island, being four hundred and twenty Lacedæmonians with their attendant Helots.

Alarm rose high in Lacedæmon; for an extraordinary value was there attached to every citizen of pure Spartan blood, and among the destined prisoners were men from most of the chief families. Rescue seeming impossible, it was determined to treat for peace: and a truce was made on these terms; that the Lacedæmonians should give in pledge to the Athenians the ships which had fought in the late action, and all ships of war lying in any Laconian port; that a stated measure of food should be sent in daily for each man on the island; that Lacedæmonian ambassadors should be sent to Athens, and on their return the truce should end and the ships be restored; and that if any article were broken, the treaty should be void. The ambassadors went, expecting that the Athenians, who had asked peace, and been refused, would gladly embrace it when offered. But the Athenians were now not more disposed to moderation

than their enemies had been before. The all-powerful Cleon persuaded them to require Nisæa, Pegæ, Trœzen, Achaia; and the negotiation was broken off.

On the return of the ambassadors the Lacedæmonians re-demanded their ships. The Athenians withheld them, alleging some small breaches of the truce, which might, perhaps, on the strict letter of the convention, bear out the denial, but which could not justify it to an honourable mind, considering how much had been trusted to their good faith. Hostilities were renewed. The blockade was tedious and expensive; it lasted into autumn, and the people began to fear its failure, and, repent the rejection of peace. Cleon's credit was in danger. At first he imputed falsehood to the messengers; but when appointed himself to go to Pylos and examine, he changed his tone, and attacked the board of generals, saying, that if they were men, they would quickly capture those in the island, and that if he held their office he would do so.

The leading person of the board of generals was Nicias, the son of Nicærat, a man of birth and fortune, in whom a generous temper, popular manners, and considerable political and military talent, were marred by unreasonable diffidence and excessive dread of responsibility. He professed himself willing to resign the business to Cleon; who accepted it, thinking the offer a feint, but, when he found it sincere, endeavoured to retract. The light-minded multitude were amused with his embarrassment, and thought the jest too good to be lost, though the public service should suffer. The more he declined it, the more they pressed it on him; and when, seeing no escape, he began to boast that in twenty days he would bring the prisoners, they laughed at his presumption, but encouraged him to go on. The wiser were comforted by the hope they would either gain the object desired, or failing of that, would be rid of Cleon. But Cleon had heard that Demosthenes was preparing an attack, and prudently left to him the conduct of it, though he was ready to appropriate to himself the credit of success. He landed on the island with Demosthenes, who by the skilful use of his numerous light-armed troops, soon reduced the Lacedæmonians to distress. Surrounded by enemies, who fled at their approach, but turned on them when they desisted from pursuit; plied with mis-

siles from the right when they charged upon the left, and from the left as soon as they fronted the other way; worn out with labour, stunned with noise, and half suffocated with dust, after many had fallen, the remnant made their way to a fort at the extremity of the island. Their rear and flanks were here protected, so that they could better withstand the enemy in front. But a body of archers and dartmen being silently led to occupy a height which commanded their rear, they were again surrounded, and exposed to sure destruction. Demosthenes and Cleon now stopped the attack, and summoned them to surrender. They asked leave to communicate with their countrymen on shore, and several messages passed, by the last of which they were permitted to consult for themselves, only doing nothing disgraceful. On this warrant they surrendered; and they were brought to Athens within twenty days, as Cleon had promised. This result surprized the Greeks, who had thought that nothing could bring Lacedæmonians to surrender. A vote was passed by the Athenian people that the prisoners should be kept in bonds till peace were made, and if Attica were again invaded, should be put to death. In number they were two hundred and ninety-two, of whom one hundred and twenty were Spartans. The original number of heavy-armed on the island had been four hundred and twenty, but the rest had fallen in the engagement. A Messenian garrison was placed in Pylos, which much annoyed the Lacedæmonians, unused to the incursions of an enemy. The Helots, who were mostly Messenian by blood, deserted in great numbers; and their late masters, suffering by their active enmity, and yet more by the loss of their services, fearing the increase of these evils, and looking forward to the revival of the Messenians as an independent and inveterately hostile power, were earnest for peace. Their overtures, however, were repulsed by the Athenians, too much elated to grant any moderate terms.

The same summer Nicias, with a powerful fleet and army, gained some successes against the Corinthians, but effected nothing decisive. Eurymedon and Sophocles making Corcyra in their way from Pylos to Sicily, reduced the exiles on Isthme to surrender themselves to the discretion of the Athenian people. Till they could be sent to Athens, they

were placed on an island, under condition that, if any attempted to escape, the capitulation should be forfeit for all. The democratical leaders, fearing that their lives might be spared by the Athenians, now devised a plot of horrible treachery and cruelty. Persons were suborned to persuade the exiles that the Athenian generals would deliver them to the Corcyraean people, and to offer them a vessel for their escape. Some attempted flight, and were taken in the ship; the terms were now broken, and all were given up to the people. The prisoners were placed in a large building; and they were led out thence in bonds by twenties, between two lines of citizens in arms, who struck and stabbed them, each selecting his particular enemies, while men with whips drove on any who hesitated to proceed. Sixty had been thus killed, when the rest found what was passing. Calling then aloud to the Athenians to put them to death if such were their will, they declared they would neither go out nor suffer any to come in. The people, not attempting to force a free passage through the doors, untiled the roof and showered missiles on them. Defence was hopeless, and they resolved to end their suffering. Some stabbed themselves with the arrows which had been shot at them, others strangled themselves, but in a day and night all perished. The corpses heaped on waggons were borne from the city and cast out unburied, in defiance of Grecian religion, which attached to the rite of burial an extraordinary sanctity and importance. Eurymedon having witnessed the completion of the tragedy, and sailed on to Sicily.

Next year the Athenians under Nicias conquered Cythera, an island on the Laconian coast, and allowing the inhabitants to retain their possessions under a tribute of four talents, made the island a post for the annoyance of the Lacedæmonians. In their return they took and burnt Thyrea, and of the unhappy Æginetans there established, all who survived were carried to Athens, and were there put to death. Thus was finished the long enmity of Athens and Ægina.

About the same time, by the exertions of Hermocrates, a distinguished Syracusan, the Sicilians were brought to agree among themselves, and the Athenian fleet sailed away. Elated by present success to think every thing within their power, the people would not believe but that their generals might

have conquered Sicily, and that they had been prevented by bribery. In this persuasion they fined Eurymedon, and banished two others.

Though Megara was democratically governed, old hatred of Athens had bound it to the Lacedæmonians; who fearing to lose it, let the Megarians chuse their constitution, while a Peloponnesian garrison held their port of Nisæa. The Athenians were wont twice a year to ravage the lands; and the city was continually harassed by its oligarchical exiles holding Pegæ, the other port. Distress exciting discontent in the people, the friends of the exiles were emboldened to propose their recal; and the popular chiefs, foreseeing ruin to themselves should their enemies be restored and backed by Lacedæmon, treated secretly with the Athenian generals Hippocrates and Demosthenes. To cut off from Megara the Peloponnesians in Nisæa, the long walls were first betrayed to the Athenians. Measures were next taken for admitting them into the city, but these being frustrated, the Athenian generals blockaded Nisæa, which was soon obliged to capitulate.

The spirit of Lacedæmon was broken by continued ill-success; but one man still kept heart and hope, and now obtained an opportunity of partially retrieving her affairs. This was Brasidas, the only Spartan who had given proof of talent in the war. He was young, and youth in his country was a bar to eminence; but though never placed in the highest command, he had shown in subordinate posts such daring activity, that the Chalcidians, on requesting a force from Lacedæmon to complete the revolt of the Thracian subjects of Athens, asked Brasidas for the leader. Their suit was granted, but the Lacedæmonians, however desirous to find work for Athens at a distance, feared to lessen the force at home, where the Helots were more than ever objects of jealousy since Pylos was held by Messenians. The detestable precaution taken seems incredible, but is yet true. Such Helots as thought they had done most service in war were invited to stand a scrutiny of their conduct, and freedom was promised to the most deserving. Two thousand being chosen were crowned with garlands as freemen, and solemnly marched round the temples. Soon after, all disappeared, and no one knew how each was murdered. Being rid of those who seemed most able to

head an insurrection, the government was willing to send seven hundred Lacedæmonians with Brasidas.

This leader was at Corinth preparing for his march, when he heard the danger of Megara. He summoned the neighbouring allies, and being joined by the Bœotians, his army outnumbered that of Athens. Both armies offered battle, but neither would make the attack; and the Athenians retiring to Nisæa, Brasidas was admitted into Megara. Having there confirmed the Lacedæmonian interest, he dismissed the allies and returned to Corinth. The most active favourers of Athens in Megara immediately fled, but the rest thought that they might safely make terms with the oligarchical party. The exiles were restored under an oath of universal amnesty. They took the oath; but their chiefs being placed in the magistracies, arrested one hundred of their principal enemies, accused them before the people, and by terror compelling the assembly to condemn them, executed them all. After this foul perjury and murder, Megara was long governed by a very few.

The successes of Athens had encouraged the democratical Bœotians to plan a revolution. It was agreed that Demosthenes, with the western allies, should land in the west of Bœotia, while, on the same day, Hippocrates, with the force of Athens, fortified Delium in the east. But the day was mistaken, and Demosthenes, arriving on the coast, found that the intended diversion had not been made, and that the Bœotian government, informed of his purpose, had brought all its forces to oppose him, and taken such measures that his friends in the town dared not stir. He accordingly retired; and after his departure, when Hippocrates came to Delium, the whole strength of Bœotia was at liberty to act against him. The armies were nearly equal, and the fight was long and bloody; but in the end the Bœotians prevailed. The defeated army fled to Delium, and, leaving there a garrison, went home by sea. Soon after Delium was taken by the Bœotians.

Meanwhile Brasidas with 1700 heavy-armed troops had pursued his march to Thrace. The country was friendly as far as the border of Thessaly. Most of the Thessalian towns were nominally democratical, and the many were every where devoted to Athens; but in most places the interest of a few powerful

men directed affairs. Having procured some distinguished Thessalians to accompany him, he proceeded; and partly preventing opposition by the influence of his guides, and by his own conciliatory conduct, and partly avoiding it by the rapidity of his march, he passed through into Macedonia. Being joined by the Chalcidians he went to Acanthus. Some leading men favoured his purpose, and as the many, though attached to Athens, had fears for their harvest, it was agreed that Brasidas should be admitted to address the assembly. He was eloquent in speech, and liberal in his policy, uncommon gifts in a Spartan; he promised independence, and impartial justice to men of all parties; and his arguments being seconded by his army at the gates, Acanthus joined the Lacedæmonian alliance.

Amphipolis, on an island in the Strymon, was the most valuable of Athenian possessions in Thrace, by its rich plain and noble river, forests of ship-timber, and mines of silver and gold. It was settled by Athens, during the administration of Pericles, after two former colonies had been cut off by the Thracians. Brasidas having intelligence with some in the city, surprised the bridge and entered the island. Few of the Amphipolitans were Athenians by origin; most were Chalcidians or connected with Perdiccas: and when Brasidas proclaimed that both Amphipolitans and Athenians might take their choice, whether to remain enjoying equal rights, or to depart with their effects; his unusual moderation, with the wishes of many and the fears of all, disposed the people to accept the terms and receive his army. Thucydides the son of Olorus, the historian, being stationed at Thasos, had brought up his squadron as soon as he heard that Amphipolis was attacked. Too late to save it, he secured Eion, at the mouth of the Strymon, which was next attempted. The Athenians, vexed that a way was found to possessions which they had thought protected by their navy, vented their rage on Thucydides for that loss which not all his activity could prevent. He was banished for twenty years, during which, by intercourse with the Peloponnesians, he extended his knowledge of Greece and completed his fitness to write its history.

Many other cities joined with Brasidas. He professed to fight for Grecian freedom, and his mild and liberal conduct supported the claim. The

general was taken as a sample of his countrymen, and an opinion rose of Lacedæmonian equity and moderation, from which men were afterwards bitterly undeceived. He projected creating a fleet at Amphipolis, and asked a reinforcement to his army from Lacedæmon. But this was withheld, for his superiority of talent excited jealousy in the government, unaccustomed to recognize individual pre-eminence in persons not of royal race.

The Athenians now repented their rejection of peace, and the Lacedæmonians, harassed from Pylos and Cythera, and eager to recover their prisoners, still were anxious to treat. As a step to peace, a truce was concluded for a year, each party keeping what it held, but the use of ships of war being for the time forbidden to the Peloponnesians. Scione, in the peninsula of Pallene, had revolted to Brasidas; but the Athenian commissioners, who announced to him the truce, declared that people excluded, the vote of alliance with Lacedæmon not having passed till after the articles were signed. Brasidas insisted that their revolt had taken place before, and refused to give them up. The Athenian people were highly enraged at finding even those almost in the situation of islanders revolt in reliance on the land force of Lacedæmon; and they voted, at the instigation of Cleon, that Scione should be taken and its people put to death. Mende too revolted, and Brasidas received it, denying that the treaty forbade him to accept an alliance spontaneously offered. The Athenians thought differently, and supported their claim by a powerful armament under Nicias and Nicostratus.

Having provided for the defence of his new allies, Brasidas accompanied Perdiccas against the province of Lynceus. A large body of Illyrians, hired by Perdiccas, turned their arms against him; and the Macedonians retreated in sudden panic, leaving their allies in the utmost danger. Brasidas saved his army by an able retreat; but the soldiers, in their anger, committed violences which exasperated Perdiccas, already offended with the Spartan leader for his wish to return to Mende before Lynceus was subdued. From this time Perdiccas sought to join with Athens, which he soon did, and by his influence in Thessaly, passage was denied to a reinforcement sent to Brasidas.

Before the return of Brasidas, Mende was lost. The leading men had caused the revolt, but the people favoured Athens. When the Lacedæmonian governor called out the Mendæans to battle, one of them declared that he would not go out, and that there was no reason for war. The governor, assuming the arbitrary authority which Lacedæmonians on foreign command were wont to exert, seized the speaker, and was dragging him from the assembly; when the democratical party flew to arms, routed the Peloponnesians and their adherents, and admitted the Athenians. The Athenian generals directed the restoration of democracy, and declared that they would not inquire into the past, but would leave the Mendæans to their own measures with respect to the authors of the revolt. They next laid siege to Scione.

The Thespians having suffered greatly at Delium, the Thebans, who had long wished, by razing their walls, to compel their unqualified subservience, now enforced that humiliating measure. The pretence was imputed attachment to Athens; the occasion, the weakness of the Thespians, crippled in supporting against Athens the allies who oppressed them. Such are the justice and decency of the strong.

Cleon's success at Pylos had raised his credit higher than ever. Aristophanes shook it for a moment, when, according to the practice of the Athenian stage, where living men were satirized by name, and the politics of the day continually introduced, he brought out a comedy entirely levelled at the vices of Cleon, and the levity and folly of the people, his dupes*. The satire succeeded; Cleon was ridiculed and reviled, and being prosecuted for embezzling the public money, he was heavily fined. But he soon recovered his ascendancy; and having deluded himself into the belief that he could command armies without the assistance of Demosthenes, in the tenth year of the war, when the truce expired, he persuaded the Athenians to send him as general into Thrace. Through his rashness, ignorance, and cowardice, his army was routed under Amphipolis; but both he and Brasidas were killed—a double advantage to Athens, which might nearly compensate for the loss of the battle.

The death of Cleon leaving Nicias without a rival in power, peace was soon made. Plateæ was left to Thebes, Nisæa to Athens; all other conquests were mutually given up. Amphipolis, as an Athenian colony, was to be restored unconditionally; the other Thracian towns were only to pay the tribute assessed by Aristides. Scione was left at the mercy of Athens. All prisoners were to be mutually restored, and any dispute arising between the contracting parties was to be settled judicially. Should any alteration in the treaty seem desirable, it might be made by consent of Athens and Lacedæmon. The Bœotians, Corinthians, Eleians, and Megarians, protested against the terms; but the majority of the allies consenting, the Lacedæmonians ratified them in the name of the whole confederacy. (B. C. 421.)

SECT. II.—In Greece a war was thought to be justified, if it promised advantage, and if no express treaty forbade it. Peace was seldom made except for a term of years, and the expiration of the period was sufficient reason for hostility. The peace just made was for fifty years, and a pressing motive of Lacedæmon to conclude it was the approaching close of a thirty years' truce with Argos, which that state had refused to renew. In power the second among the Peloponnesian states, Argos still looked back with pride to its ancient pre-eminence, and cherished the hope of disputing with Sparta the command of Peloponnesus. Its comparative wealth and population were now unusually high, for during ten years of surrounding warfare it had thriven in peace; and the Lacedæmonians, fearing to stand alone against Argos, united either with Athens, or with their own offended allies, hastily formed a defensive alliance with Athens. Lacedæmon was to be first in the restitutions stipulated in the peace; but the only article yet executed was the liberation of Athenian prisoners. The Athenians, however, on making the alliance, set free the prisoners taken at Pylos. One article of the alliance is worthy of notice; that the Athenians should assist with all their strength in quelling any insurrection of the Helots. A like stipulation never was made by any other Grecian state; but it was fit that the greatest guilt of Lacedæmon should be the source of its peculiar and ever present terror.

This alliance completing the estrange-

* This comedy is still in existence. Its title is *The Knights*. It is one of the plays of Aristophanes recently translated by Mr. Mitchell.

ment of Corinth from Lacedæmon, some leading men proposed to the Argians to league for the defence of Peloponnesus against the ambition of the new confederates. The government of Argos being democratical, all proposals of treaty were regularly made to the popular assembly; but in the present case, lest any who might endeavour to connect their cities with Argos should be endangered by the publicity of the attempt if it failed, the Argian people empowered twelve commissioners to conclude alliance with any Grecian state but Lacedæmon or Athens. From either of these the assembly alone could receive proposals. The alliance of Argos was soon embraced by Mantinea, Elis, and Corinth. The Megarians and Bœotians stood aloof. Dissatisfied with Lacedæmon, and inveterately hostile to Athens, their oligarchical governments were yet unwilling to connect themselves with a powerful democracy like Argos.

As soon as the peace was made, the Lacedæmonians had ordered their general Clearidas to restore Amphipolis, and required the other Thracian towns to submit to Athens on the terms prescribed. They all refused, and Clearidas saying that he could not compel them, was directed to bring away all the Peloponnesian troops. On the return of the army, the Helots who had fought in it were rewarded with freedom. About the same time a violent precaution was taken against the restored prisoners from Pylos, who found themselves held cheap on account of their surrender, an act before unknown in Lacedæmon, but which, to save them from certain destruction, the government had authorized. Disturbance was feared from their discontent, and the more as some were in high employment; wherefore they were voted incapable of office, and, what seems more strange, incapable of buying and selling. Some time after, the disqualification was removed. In the course of the summer Scione was taken by the Athenians, and, according to the cruel decree proposed by Cleon, the men were slaughtered, and the women and children made slaves. The land was given to the remnant of the Platæans.

The Athenians had begun to mistrust the Lacedæmonians, who, instead of restoring Amphipolis, had left it in the hands of the armed citizens; and who, when required, always promised, but

had hitherto delayed, to join in compelling their allies to perform their part in the treaty. The Lacedæmonians said that they had done what lay in them, and would use their endeavours to induce the others to concur; in return they claimed the restoration of Pylos, or, at least, that it should be garrisoned with Athenians, and not with their implacable foes the Messenians and Helots. After much dispute, the last proposal was granted. The Lacedæmonians then requested the Bœotians to give up to them the Athenian prisoners who were in Bœotia, and the border fortress of Panactum, which, according to treaty, was to be restored to Athens. In return for Panactum and the prisoners, they hoped to recover Pylos: but to obtain them they were obliged to form a separate alliance with the Bœotians, though it was stipulated in their alliance with Athens, that neither party should make war or treaty without the consent of the other. This measure, therefore, did not conciliate the Athenians, but rather gave them fresh offence; especially when it was found that the Bœotians, instead of restoring Panactum, had demolished it. The Argians supposing Bœotia leagued with Athens and Lacedæmon, at first had wished to treat with Lacedæmon; but when they found that those two states were more at variance than before, they broke off the treaty, and sent ambassadors to Athens. Ambassadors were also sent by Lacedæmon to defend her conduct, and demand the restoration of Pylos. This occasion introduces to us one of the most remarkable characters of Greece.

Alcibiades, the son of Cleinias, a youth of the highest birth in Athens, became early master of a vast inheritance. His talents were brilliant, his ambition unbounded; his wealth and high political connexions surrounded him with flatterers, by whom his confident temper was so far inflamed, that he meditated speaking in the assembly before his twentieth year. From this he was diverted by Socrates, the first and greatest Grecian teacher of moral wisdom to mankind. He saw the powers of Alcibiades and the danger of their perversion; he desired to curb his wild passions, and direct his love of praise to worthy objects. The young man had an inquiring mind, which led him to value the instructions of Socrates, and a disposition generous enough to venerate his character; and an intimate

friendship took place between them, which was confirmed by Socrates saving his pupil in a battle in Thrace, a service repaid by Alcibiades in the rout of Demium. But the influence of Socrates could not permanently overcome the temptations which beset his young disciple. His love of pleasure was excessive; and his uncommon beauty of person made him the object of adulterous passion to many women of rank in Athens. He was courted by numbers who hoped to profit by his wealth, and by his means of arising to power. Greedy of pre-eminence in every thing, he gloried in a lavish magnificence before unknown in Athens, and offensive to many, as outraging the due equality of citizens in a democracy. And in his political career we shall find him no less unable to separate true glory from mere distinction; admirable indeed for ingenuity and boldness, but the slave of an ambition utterly estranged from public spirit, and as selfish in its ends as unscrupulous in its means.

The family of Alcibiades had anciently been hereditary public guests of Lacedæmon; by which connexion they were bound to entertain and do good offices to all its envoys; and in return, if ever they went thither, were honourably received at the public expense. Such public guests considered the state to which they were attached as a second country, took care of its interests, and laboured to preserve it in amity with their own; and the favour they there enjoyed, being sometimes useful to their country, contributed to their influence at home. Indignant at the attempt to restore the Peisistratidæ, an ancestor of Alcibiades had renounced the friendship of Lacedæmon, with all the ceremonies prescribed by Grecian religion for the dissolution of a bond so sacred as was that of hospitality, whether public or private. Alcibiades, wishing to renew the connection, had shewn kindness to the Spartan prisoners; but the Lacedæmonians, who liked neither his youth nor his habits, preferred to communicate with Nicias on the subject of peace; whence Alcibiades became hostile both to Nicias and Lacedæmon.

The ambassadors of Argos and Lacedæmon, met at Athens. The latter having told the council that they came with full powers to conclude on all disputed points, Alcibiades persuaded them that it would be for their advantage to profess their powers limited, and promised, if they did so, to support them.

Accordingly, in the assembly, they declared themselves restricted; whereupon their treacherous adviser attacked them more violently than before, taxed them with double dealing, and proposed an immediate junction with Argos. The offended people would have voted it, but the assembly was adjourned on account of an earthquake. Next day, their anger having cooled, they listened to Nicias, and contented themselves with sending to require that the Lacedæmonians should restore Amphipolis, and renounce the alliance of Bœotia, unless Bœotia would join the common league. The demand was rejected by Lacedæmon, and they concluded an alliance with Argos. In this Corinth did not concur, inclining rather to rejoin Lacedæmon.

Epidaurus, besieged by the Argians, was reinforced from Laconia by sea. The Argians complained to Athens, that, by allowing this, it had broken the treaty, which provided that neither state should suffer enemies of the other to pass through its dominions. This strange remonstrance, acknowledging that the sea was the dominion of Athens, would seem to have been prompted by the influence of Alcibiades; who proposed and obtained the compliance of Athens with the no less strange demand, that, in reparation to Argos, and punishment for the imputed aggression of Lacedæmon, the Messenians and Helots should be re-established in Pylos, and thus Laconia should be exposed to plunder, though still nominally allied with Athens.

In the next summer, the fourteenth from the beginning of the war, the Lacedæmonians made an effort to succour their distressed allies of Epidaurus, and to recover their influence in Peloponnesus. They marched out with all their force under king Agis, the son of Archidamus, and were joined by their remaining allies, including the Corinthians. Agis manœuvred so successfully that the Argian army was surrounded, and exposed at great disadvantage to the attack of a superior force. Two Argians saw the danger, Thrasyllus, one of the five generals of Argos, and Alciphron, a public guest of Lacedæmon. They went privately to Agis, and pledging themselves to reconcile their state with Lacedæmon, prevailed on him to grant a four months truce, on his own authority. The army of Agis heard with astonishment the order to retreat; but so far were the Argian

people from rightly valuing their escape, that they ignorantly thought they had lost an opportunity of destroying the Lacedæmonians, and their anger ran so high that Thrasyllus saved his life by flying to an altar.

The Athenian force was not yet come; and when it came the Argian leaders were unwilling to break the truce. Alcibiades, however, arriving as an ambassador, persuaded the people that the truce was void, being made without authority; and the allied army being put in motion reduced Orchomenus in Arcadia, and advanced on Tegea, an ancient, faithful, and most valuable ally of Lacedæmon. The Lacedæmonians from the first had disapproved the retreat of Agis, but hearing that the truce was renounced, and Orchomenus taken, they called him to account, with a violence unusual in them. They were on the point of heavily fining him, and demolishing his house; but he prevailed on them to try him further, and was suffered to resume the command, but under a restriction before unknown, ten counsellors being appointed, without whose concurrence he might not lead the army beyond the borders.

Tegea was secured by a hasty march of the Lacedæmonians, and being joined by the Arcadian allies, they entered the territory of Mantinea. After some manoeuvring, the Lacedæmonians, when they least expected it, found themselves suddenly in front of the enemy, who were advancing in good order. Their alarm was considerable, but their excellent training enabled them rapidly to form for battle; and the day was won by their superior discipline and steadiness, notwithstanding some considerable errors of their commanders. This battle restored the credit of Lacedæmon, and gave to the oligarchical Argians the hope of concluding a peace, and then an alliance, and finally by that means overthrowing the democracy. In spite of the great influence of Alcibiades, who was then present in Argos, the people consented first to peace, and then to alliance with Lacedæmon,—an example which the Mantineians were compelled to follow; and at the close of the year, by the aid of a force from Lacedæmon, oligarchy was established in Argos.

This did not last long. The Many taking heart, attacked and overcame the ruling party. The Lacedæmonians prepared to march against them; but

delays took place, during which the Argians renewed their alliance with Athens, and began to build long walls to their port. The unfinished walls were demolished by the Lacedæmonians, but little further was gained. By the arbitrary interference of Lacedæmon, the Argian people had been driven to throw themselves so entirely on Athens, that when Alcibiades came next year, with twenty ships, he was supported in arresting, and imprisoning in different islands, three hundred persons suspected of wishing well to Lacedæmon.

Melos, an island on the coast of Peloponnesus, was independent of Athens; which could not endure that, when all the other islands were its subjects, one of the weakest should withhold obedience. "Tell us not," said its ambassadors, "that, though colonists of the Lacedæmonians, you have not joined them in their wars against us; tell us not that you have done us no wrong, but examine our respective forces, knowing that equals only dispute about justice; but the mighty do their pleasure, and the weak must submit." Such in all ages has been the principle acted on by powerful oppressors, though never, at least in modern times, so explicitly avowed, as both here and in some other speeches occurring in Thucydides, which, if not always correct reports of what was actually said, are yet specimens of the language which the public ear could endure. The Melians refusing submission were besieged; no effort was made for them by Lacedæmon; they were reduced to surrender at discretion, and, for defending their independence against an unprovoked and most unjust attack, all the men were butchered, and the women and children sold as slaves.

Next spring, the Athenians, hoping to effect the conquest of Sicily, which was again torn by petty wars, prepared a fleet to aid the Egestans against Selinus, which was backed by Syracuse. Alcibiades, Nicias, and Lamachus, were chosen to command. Nicias attempted to dissuade the people from wasting their resources in distant warfare, and multiplying their enemies; Alcibiades replied, enhancing the value of the conquest; and the assembly approving it, voted one hundred triremes, and five thousand heavy-armed troops, with archers and slingers in due proportion, and whatever further the generals might think expedient. The citizens eagerly enlisted, from the love of enterprise, from curiosity, from the hope of enriching

themselves by successful war, and increasing the public treasure, which furnished subsistence to the poor, and amusement to all.

It was an ancient and venerated custom in Athens to place at the entrance of temples and houses a block of square stone, crowned with a head of Mercury. Most of these one night had the faces mutilated. This incident, apparently so trifling, dismayed all Athens. It was thought ominous of ill to the intended expedition; it was thought to prove a design to overthrow the democracy; though how it could contribute to such an end is inconceivable. All efforts failed to discover the perpetrators; but it was found that Alcibiades had before, in a drunken frolic, been concerned in some similar irregularities, and his many enemies laboured to fix the charge on him. His guilt is most improbable, for the business was evidently concerted, and very injurious to the favourite project of ambition in which he was now embarked; but his ostentatious extravagance had raised a suspicion that he looked far above democratical equality; he had shown that he little regarded things esteemed most sacred; and many were easily persuaded that his overweening disposition had led him to insult the religion of his country, and to plot against its liberty.

Alcibiades demanded an immediate trial. It would be unjust, he said, to receive accusations against him when absent, and imprudent to keep a man in high command, with such charges hanging over him. But his accusers dreaded his popularity in the army, and feared to alienate the Argian and Mantinea auxiliaries procured by him. When he was gone they might work on the passions of the people, aggravating every unfavourable circumstance, while the accused was not present to contradict them. They procured a vote that Alcibiades should proceed on the expedition. The preparations were completed, and the fleet set sail under the anxious gaze of all Athens, assembled to witness the departure of the most splendid armament ever sent by a Grecian state on distant service.

The Ionian interest in Sicily had been quite overborne, and none were ready to join with Athens, except the Eggestans, who were on the brink of ruin, and the remnant of the Leontines expelled from their city by Syracuse, and now occupying two fortresses in their ancient ter-

ritory. The generals differed how to proceed. Nicias proposed to relieve Eggesta, and then return home, unless the Eggestans should fulfil their promise to furnish pay for the fleet, or some readier means should occur than now appeared of restoring the Leontines. Alcibiades was for negotiating with all the cities but Syracuse and Selinus, beginning with Messene, as the most convenient harbour and station whence their army might commence its operations, and when they knew what cities would be with them, then attacking Syracuse. Lamachus, who appears to have been a mere soldier, full of spirit and enterprise, but little versed in intricate political speculations, wished to fall on Syracuse, while unprepared; but being overruled, he concurred with Alcibiades, and Nicias was obliged to yield. Alcibiades persuaded the Messenians, not indeed to join in the war, but to furnish a market to his army. He obtained the alliance of Naxos and Catana, and sent ten triremes to the port of Syracuse, to proclaim that the Athenians were come to restore the Leontines, their kinsmen and allies, and that any Leontines would be received in the armament as friends.

Meanwhile, as often happens when the popular mind is possessed with unreasonable terror, the Athenian people had overleaped all bounds of justice, humanity, and common sense. From the affair of the Mercuries, a plot was inferred for the establishment of oligarchy or tyranny, and the irritation was cherished by continual discourses of what Athens had suffered through the Peisistratidæ. On the slightest suspicion—on the most discreditable evidence—men, the most respected, were imprisoned; alarm increased with the number of accusations, and each found easier credit than the last. At length Andocides, one of the imprisoned, seeing no other hope of escape, and hoping by the sacrifice of a few to save the rest, and to tranquillize the city, confessed the crime, and accused some others—whether truly or falsely, is not known. The people received the information with joy, and setting free the informer and those whom he had cleared, tried and executed the others. The proof was very inadequate, and the condemnation most unjust; but the panic was in great measure abated. Though Alcibiades was not included in the information, the people, in their present temper, were easily stirred to inquire into his former impieties. He was

proved to have profaned the mysteries of Ceres, by celebrating them in mockery in a private house; and this was easily connected by the malice of his enemies, and the excited suspicions of the people, with a charge of conspiring against the democracy. The accident of a small body of Lacedæmonians approaching the Isthmus, raised suspicion so high that the people passed a night under arms. In Argos, also, the Many became jealous of the friends of Alcibiades; and though Alcibiades himself had placed in custody the oligarchical Argian chiefs, these unhappy men were given up by Athens, to be put to death by the Argian people, as if conspirators with Alcibiades. The death of Alcibiades was resolved, but it was thought unsafe to arrest him in the army. He was simply summoned home; but suspecting his danger, he fled to Peloponnesus, and was capitally condemned in his absence.

The plans of Alcibiades were given up, no man remaining capable of executing them; nor was any decided course of action substituted. The armament went to Egesta, and, returning thence, lay at Catana; while the Syracusans, who had lately been in dismay, grew so confident, that they obliged their leaders to conduct them to that city. Of this the Athenian generals took advantage, and sailing by night for Syracuse, took up a strong position under the walls. The Syracusans hastened home, and lost a battle; but the Athenians returned on the morrow to Catana, without pursuing their success. The Syracusans, alarmed at their defeat, were now willing to be directed by Hermocrates, their ablest commander. They made him the first of their generals, and reduced the number from fifteen to three; they passed the winter in disciplining their forces, strengthening their city, and confirming their allies; and sent to ask the aid of Corinth, their mother city, and of Lacedæmon.

The prayer of Syracuse was supported in Lacedæmon by Corinthian ministers, as well as by Alcibiades, who had gone thither with the unworthy purpose of taking revenge upon his country by foreign arms. He declared that the Athenians hoped to conquer, not only Sicily, but Grecian Italy, and Carthage; to obtain from Italy ship-timber in abundance, and from Spain numbers of excellent mercenary soldiers; and then, with resources thus increased, making war on

Peloponnesus, to become lords of all the Grecian race. He therefore advised the Lacedæmonians, both to send a Spartan general, with troops, into Sicily, and to make a diversion at home; and for the latter purpose, he recommended garrisoning Deceleia, in Attica. The assembly approved his plans; Gylippus, a Spartan of royal blood, was appointed to command in Sicily, and directed to consult with the Corinthians and Syracusans how best to carry thither troops; but these were to be gathered as they might from the allies, Lacedæmon furnishing none.

In the spring the Athenians, after some unimportant movements, formed the siege of Syracuse. Their operations were ably conducted; they were superior in every skirmish, and the circumvallation (walling round) was rapidly all but completed. Hermocrates seems to have acted judiciously; but the Syracusans, undisciplined, and frequently insubordinate, could not resist the skill and experience of their enemies. The friendship of Athens was generally courted; supplies came in both from Sicily and Italy; the Syracusans themselves began to talk of capitulation, and even sent proposals to Nicias, who was now alone in command, since Lamachus had fallen in a skirmish. Suspicion arose of the treachery of parties, the common dread of Grecian cities when besieged; and the people vented their discontent in cashiering their generals.

Gylippus, arriving in Sicily with seven hundred heavy armed infantry, by his own activity and the reputation of Lacedæmon increased his numbers to above three thousand in all. He passed the Athenian lines unopposed, and joined the Syracusans; and to the astonishment of the besiegers, who were busied in a different part of the works, the combined forces appeared as offering battle. Gylippus halted while retreat was in his power, and sent a herald to the Athenians, to say, that if they would quit Sicily in five days he would make a truce for the purpose. The messenger was received with scorn, and sent away unanswered. Gylippus observed that the Syracusans could not keep their order on difficult ground; but Nicias, not attempting to profit by this, let them retire at leisure. The next day Nicias continued inactive, while Gylippus took the fort where the Athenian magazines were chiefly deposited, and which commanded

the heights of Epipolæ, on the inland side of the town.

The Athenians, though still superior in the field, had lost all hope of taking the city, and were daily suffering by the swampy nature of their ground. Gylippus carried out a wall from Epipolæ, so as to intersect the lines of the besiegers and secure a communication with the country beyond. Twelve ships arrived from Corinth and its allies, and the Syracusans, strengthened both by land and sea, prepared to act offensively. Ministers were sent to Corinth and Lacedæmon: Gylippus went round the Sicilian cities to gather reinforcements, rouse the lukewarm, and win the neutral or adverse.

Nicias communicated to Athens his danger. His men were wasting by sickness, desertion, and the sword; his ships perishing for want of repairs, since all were continually needed to keep open the sea, by which alone he could get supplies. He declared it necessary to recall the army, or else to double its force; requested that he might be superseded, as disqualified by ill-health for command; and that former honourable services might excuse his present ill-success. The people would neither give up their plans of conquest nor accept the resignation of their general; and Demosthenes and Eurymedon were appointed to lead a powerful reinforcement.

The Lacedæmonians, attributing their previous ill-success to their own injustice in supporting the aggression of Thebes on Plataea, and in refusing the arbitration proposed by Athens, now considered that the Athenians had placed themselves in the wrong, by refusing in their turn a judicial settlement of the differences which had arisen since the truce. They therefore renewed the war in the nineteenth spring from its beginning, (B. C. 413,) trusting now that the gods would be on their side. They entered Attica and fortified Deceleia, a town not fifteen miles from Athens, and commanding its richest lands. The works proceeded without an attempt at opposition; yet the Athenians persisted in their plans of distant conquest, and Demosthenes sailed for Sicily with most of their disposable force.

Meantime Gylippus and Hermocrates prevailed on the Syracusans, disregarding the skill and fame of their opponents, to make an effort for maritime superiority. A combined attack was planned by land and sea. By sea the Syracusans were defeated, though superior in the

number of ships; but while the Athenians were watching the battle, their forts on the headland closing in the harbour were attacked and taken, with most of their provisions and stores. Triremes were stationed under protection of the forts, and no Athenian convoy could now come in without fighting. But however successful in straitening the enemy, the Syracusan generals were anxious to strike a decisive blow before the reinforcement arrived. The port giving little scope for the manœuvring of the Athenians, enabled the Syracusans to meet them bow to bow, instead of suffering their transverse stroke. Gylippus strengthened the bows of his ships to give them the advantage in the shock. He gained first a slight advantage, next a victory, but before he could further pursue it, the force under Demosthenes arrived.

The natural indecision of Nicias, increased by ill-health and dislike of his command, had been a principal cause of failure. Demosthenes, desirous to avoid a similar error, resolved to act while his force was unimpaired; to make some attempt which might determine the probability of success; and either to pursue the war with vigour or abandon it without delay. He attacked the heights of Epipolæ, the possession of which would give the means of renewing the blockade; but failing, he proposed to withdraw while retreat was open. The safety of the army was more important than any conquest it could now achieve, and it was better to hazard the popular displeasure than to waste the best strength of the state when most wanted at home. But Nicias would not risk an unauthorised return, and he had secret grounds of hope arising from communication with Syracusan malcontents. The opportunity was lost, matters daily grew worse, sea-fights took place to the advantage of the Syracusans, in the last of which their naval superiority was completely established. To remain was now impossible, and the Athenians began their retreat, leaving their wounded to the mercy of the enemy. They were yet strong in regular foot, and able to overbear all direct opposition, but the march was long, and the enemy far superior in horse and light troops. Fatigue and want, and constant harassing, thinned their ranks and broke their spirit, and the mass of the army was either killed or reduced to surrender individually or in bodies.

Nicias had shown throughout the retreat a fortitude and energy strongly contrasted with the feebleness of his preceding conduct. Both he and Demosthenes were taken by the Syracusans, and both put to death by order of the people. The humbler captives were imprisoned in the stone quarries, where numbers miserably perished through want and hardships of every kind. The deliverance of Syracuse must be grafting to all who rejoice in the failure of unprincipled ambition; but our sympathy with that people cannot but receive a check when we view the deliberate cruelty with which they abused their triumph.

The Athenians were long before they would believe the complete destruction of an armament containing all the flower of their citizens and the greatest part of their navy. When convinced, they vented their anger on the orators who had advised the expedition, as if themselves, who so readily voted it, were not equally to blame. Their situation seemed almost desperate. There was little money in the treasury, and few ships in the harbour; their enemies were superior by land and sea, and would probably be joined by the navy of the Sicilians, and further strengthened by extensive revolt among the allies of Athens. The remedial measures of the Athenians were, however, energetic and judicious. The spirit of the people still was high, and they were schooled by misfortune into compliance with their wiser counsellors. They set themselves vigorously to the building of ships and the raising of money; retrenched the expenses of feasts and shows, and took measures to secure the obedience of the allies, particularly of Eubœa, the most important. It was, nevertheless, the opinion prevalent in Greece, that the Athenian power could not outlast another summer. The allies of Lacedæmon were confidently looking to relief from a long and difficult war, and those of Athens mostly to deliverance from a hard subjection; while Lacedæmon itself, which had lately been warring against an enemy decidedly superior, now enjoyed the prospect of undisputed ascendancy in Greece.

SECT. III. The Persian kings, instead of aspiring as formerly to the conquest of Greece, now lived in fear and jealousy of the single state of Athens; so far superior are courage and intelligence to mere extent of territory and amount of subject

population. Many allies of Athens were contending which should first be enabled by Lacedæmon to revolt; and with their ministers came ambassadors from two great Persian officers, the powerful satraps of Lydia and of the Hellespont, each of whom solicited alliance, and urged the Lacedæmonians to make his government the scene of their earliest operations. It was determined to assist the intended revolt of Chios and Erythræ, according to the wish of the Lydian satrap Tissaphernes. The Chians had sixty ships of war, and forty were voted to support them; but while the sailing of the squadron was delayed by the wonted tardiness of Lacedæmon, the Athenians, suspecting its destination, sent to charge the Chians with their purpose. The design was that of the oligarchical party, and had not been communicated to the assembly nor to any favourer of democracy; the leaders, taken unprepared, denied the wish to revolt, and the requisition of seven ships to join the Athenian fleet was obeyed.

Summer came, and a Peloponnesian squadron sailed for Chios, but it was attacked, chased to the shore, and there blockaded by the Athenians. So much were the Lacedæmonians discouraged, that they actually meditated giving up the splendid prospects opening in Asia. Alcibiades, however, prevailed on them to send five ships to Chios, and to allow him to accompany them; and arriving before the news of the Athenian success, he persuaded the Chians to join the Peloponnesian league. The example soon was followed by Erythræ, Clazomenæ, and Miletus. An alliance was formed with Tissaphernes, on terms little honourable to Lacedæmon; for it was stated that all should belong to the king which had been possessed by his predecessors; which, strictly interpreted, would include all the Grecian cities of Asia, with the islands.

On hearing the revolt of their most powerful ally, the Athenians brought into use the thousand talents set aside in the beginning of the war as a reserve for extremity. Through the vigour of their own, and the feebleness of the Lacedæmonian administration, they were soon again advancing to maritime superiority. The Samian commonalty rose upon the nobles, who were probably arranging a plan of revolt; and banishing four hundred they reduced the rest to complete depression. The Athenians, now sure of the fidelity of Samos, voted

its independence, it having since the former rebellion been held under strict control. Lesbos revolted, but was soon reduced; Clazomenæ returned to obedience, and the Athenians, now masters of the sea laid siege to Chios, and reduced it in the course of the winter to great distress.

Alcibiades, far from wishing Lacedæmon completely triumphant, had principally sought to gain an influence over Tissaphernes, by which he might detach him from the Peloponnesians when he should see cause. About this time the adverse party, gaining the lead in Lacedæmon, refused to ratify the treaty made with Tissaphernes. Suspecting the insincerity of Alcibiades, and fearing his genius, they sent private orders to assassinate him, which he prevented by quitting the army. He now successfully laboured to put the satrap at variance with Lacedæmon, and dispose him to connection with Athens; and he secretly negotiated with some of the Athenian leaders at Samos, where the army had its head-quarters, for his own recall. The exertions of Athens had of late been prodigious, but in its exhausted state they could not long hold out against an enemy supplied by the wealth of Persia; yet if those supplies could be transferred to Athens, it might still be victorious. Alcibiades well knew that if he should be restored there could be little esteem for his character, and that, when the immediate need of him was past, he might fall by the first breath of suspicion: he saw that his surest support would be a party who owed their superiority entirely to him, and he knew that the fate of the commonwealth was so completely in his hands, that he could attach to his services what condition he would. The price he set on them was the establishment of oligarchy. On this condition, coupled with the return of Alcibiades, it was declared in the army that the king would furnish money for the war; and such was the general sense of the public danger, that a majority decided to accept the terms.

Delegates were sent to Athens to propose the change; and the people, though unwillingly, were yet induced by their desperate situation to acquiesce. Peisander, the chief of the deputation, was sent with ten others to treat with Tissaphernes, and empowered to conclude whatever should seem best. Having organised a faction Peisander sailed, but his mission was frustrated by unexpect-

ed difficulties. The Satrap was unwilling quite to break with Lacedæmon; and Alcibiades fearing that his influence might appear to fail, desired to make the Athenians the refusers, by asking extravagant concessions to Persia. The negotiation was broken off, and Tissaphernes concluded a treaty with the Lacedæmonian admiral on terms more moderate than before. Oligarchies were set up by Athenian commissioners in several subject towns, and most of these in consequence revolted to Lacedæmon.

Peisander, returning to Athens, found the revolution much advanced. Many of its chief opposers had been murdered, no one dared to ask by whom; the popular party were dismayed and disunited, and mutually suspicious through repeated desertions. All opposition being silenced by the fear of assassination, the oligarchical leaders swayed the assembly to their will. But though certain to carry at the moment whatever it pleased them to propose, they felt that some degree of moderation was necessary to secure the continued obedience of the people, and particularly the acquiescence of the armament in Samos, which they could less intimidate or coerce. The scheme adopted was, that the sovereignty should be placed in an assembly of five thousand citizens, chosen for their property and bodily ability: but while this body was nominally supreme, the whole direction of the state was effectively vested in a council of four hundred, and it was only when summoned by them that the larger assembly was to meet. The people ratified the new constitution, and the existing authorities gave way to it without a struggle. The change was brought to pass with singular ability, and with a quietness and freedom from extensive bloodshed almost unparalleled among Grecian revolutions; but though not accompanied with battle or massacre, it was deeply stained with the baser practice of secret assassination. In the measures which led to it the chief actor was Peisander: but the contriving and directing mind was that of Antiphon, a man of the highest character both for capacity and virtue; who, both by his advice and by his talent for composition, had assisted many who had occasion to appear in the courts and in the assemblies; but had kept himself as far as possible aloof from both, through fear of the jealousy which often attended the reputation of ability, especially when the fortune,

habits, and temper of the possessor appeared to connect him with the favourers of aristocracy.

Peisander had left the oligarchical interest predominant among the Athenians at Samos, and approaching to superiority among the Samians. But the Athenian generals with most of the soldiers favoured democracy, and had only renounced it as the price of Persian aid, which seemed not likely to be given. The oligarchical Samians meditating an attack upon the Many, the latter craved the support of the generals, and of Thrasybulus and Thrasyllus, two distinguished Athenians of the popular party. These canvassed the soldiers with so much effect, that nearly all declared for democracy, and agreed in the resolution not to suffer the Samian people to be oppressed. The attack was made, but the Samian Many being supported by the Athenians easily prevailed. The victory was used with uncommon moderation. About thirty of the conspirators were killed in the tumult, but not a man was put to death by way of punishment; only three were banished, and the rest were pardoned and admitted to live in perfect equality under the democracy.

A ship was sent to Athens with these tidings, which it was supposed would be well received there, for the Athenian revolution was yet unknown at Samos. On arriving, some of the crew were thrown into prison; while the commander escaping to Samos reported the change, and passionately exaggerated the violences of the new rulers. In the debates ensuing in the army, Thrasybulus and Thrasyllus took the lead. An oath was imposed on all that they would be faithful to democracy, zealous in the war, and perseveringly hostile to the Four Hundred. The Samians also took the oath, and were admitted to the Athenian councils, as men embarked in the same cause. The soldiers now assumed to their assemblies the authority of the general assembly of the people, considering the commonwealth as overthrown in the city, and only existing in the camp. Their first act of power was to supersede all suspected officers, appointing Thrasybulus and Thrasyllus to the chief command. Alike at war with the Peloponnesians and the Athenians of the city, they encouraged themselves with the considerations that they were the strength of the commonwealth, and the new rulers comparatively weak; that having the fleet, the subject states were theirs, with

the revenues thence arising; that Samos was no contemptible home; and that far from looking to Athens for subsistence, they had both larger resources than those in the city, and the command of the sea, which placed at their mercy the supplies of their opponents. They trusted to the goodness of their cause, which was the vindication of their ancient constitution; they hoped for Persian aid in bringing the war to a happy issue; and in the worst event, with the force which they possessed they could gain both lands and cities to inhabit.

The Peloponnesians, being disunited and ill commanded, did not move against the Athenians till their differences were settled. On approaching Samos they found all quiet and orderly, and withdrew, avoiding offered battle. It was necessary to find some means of supporting the expenses of the fleet, which were scantily supplied by Tissaphernes, always sparing of his treasure, and now uncertain which party to support. They listened therefore to Pharnabazus, the satrap of the Hellespont, who offered to maintain them if they would come to his province. But as they would not move with their whole force at the hazard of fighting the Athenians, a small squadron only arrived in the Hellespont, avoiding observation by a circuitous route. Meantime an assembly being held of the Athenians in Samos, Thrasybulus obtained the recal of Alcibiades, and went himself to invite him to the island. Alcibiades arriving, harangued the assembled army, lamenting his exile, and magnifying the benefit to be expected from his return; which he represented as certainly bringing with it the support of Tissaphernes. He was immediately chosen commander-in-chief. Hope and confidence rose so high that the soldiery were eager to sail to the Peiræus, and put down the Four Hundred. Alcibiades checked the rash design. The nearer enemy, he said, must not be left at liberty to seize unopposed on the richest possessions of the state; and it was necessary for himself, since he was chosen general, to communicate personally with the satrap on the necessary arrangements of the war. The assembly being dissolved he went immediately to Tissaphernes, anxious at once to impress upon the Athenians his close connexion with the satrap, and to confirm his influence over the latter by displaying his power among the Athenians; and thus he obtained from both what his views

required, by alarming alternately the Athenians with Tissaphernes, and Tissaphernes with the Athenians.

Ambassadors from the Four Hundred arriving at Samos, the popular fury rose so high that the multitude were again on the point of voting to go straight to Athens. The influence of Alcibiades again prevented a measure which would have been certain ruin to both parties, but which only he was capable of hindering. He framed a moderate answer to the ambassadors, encouraging those in the city to hold out against the common enemy; for while, he said, the city was safe, there was hope of accommodating the dissensions of the citizens; but were either party cut off, whether those in Athens or in Samos, there would soon be no commonwealth with which the enemy could treat.

Already divisions had arisen among the rulers at Athens. Peisander and the thorough-going oligarchists were bent on confining all real power to the Four Hundred; and rather than compromise with their countrymen at Samos, or admit into the government any leaven of democracy, they were ready to lay their country at the feet of Lacedæmon. They would make peace if possible as an independent state; but peace must be made on any terms: and they would rather, if it were necessary, govern Athens like so many other oligarchies as the lieutenants of Lacedæmon, than permit the return of their feared and hated opponents, and sink into private citizens under a government to which they could not but be objects of suspicion. But there was also a party headed by Theramenes, which upheld the authority of the Five Thousand, and opposed undue submission to Lacedæmon. This consisted of those whose zeal for oligarchy was less than their desire of union and national independence; of the friends to a mixed government; and of the democratical party, who, not as yet daring to avow themselves, threw their weight into the scale of those whose principles were least opposite to their own. The answer of Alcibiades breathed a spirit of compromise and mutual accommodation, which gave new hope to the moderate party; while Peisander's party, fearing more and more, pressed on the negotiation with Lacedæmon, and instructed their commissioners to lower their demands, and conclude the peace in haste on any tolerable terms. At the same time they built a fort which commanded

the entrance of the Peiræus. Its purpose, they said, was the defence of the harbour in case of attack by the fleet from Samos; but their adversaries maintained that its real object was to enable them to admit the fleet of the Peloponnesians. The approach of the latter so near as Ægina strengthened the suspicion, and the people rose in tumult to destroy the fort. Theramenes went as one of the generals apparently to suppress the tumult; but as soon as he had ascertained that he would be supported he assumed the direction of the insurgents. The cry was to uphold against the Four Hundred the government of the Five Thousand; and thus the punishment of treason, which would have been incurred by appealing in terms to the entire people, was avoided by calling on a body acknowledged as sovereign by the existing constitution.

Next day the armed people held an assembly, and marched into the city. The Four Hundred sent a committee to confer with them. They said that the Five Thousand, who had not yet been nominated, should be immediately declared; that the Four Hundred now in office should resign their authority in due time; that the Five Thousand should settle the manner of appointing their successors; and that on a stated day the people should meet to consider the means of a permanent reconciliation. On the appointed day the people were assembling, when news came that a Peloponnesian fleet was at Salamis. All ran to the harbour, and, without waiting for orders, each did what seemed to him to be required. Ships were launched and manned, and all prepared for defence; but the enemy passed by towards Eubœa. Fresh alarm arose; for the people being deprived of the produce of Attica by the garrison of Deceleia, the loss of Eubœa would leave them scarcely the means of subsistence. A squadron was sent to the protection of the island, but it was surprised and defeated; and Eubœa, which had before been inclined to revolt, immediately declared itself.

If the Peloponnesians had now sailed to Peiræus, they might have entered unopposed, and the city could only have been saved by the return of the fleet from Samos, whereby its foreign dominion must have been lost. But the opportunity being neglected, the Athenians had time to settle their internal government, and arrange their measures of defence. It was decreed that the council

of four hundred should be immediately dissolved, and the supreme authority vested in five thousand, who should be taken from those citizens now in Athens, who were enrolled for service among the heavy-armed troops. Thucydides declares that the constitution was established on a better footing than at any time within his memory, with a moderate and beneficial distribution of powers between the Many and the Few. Immediately on the change most of the oligarchical leaders fled to Deceleia. A vote was passed for the recal of Alcibiades, and information of the late transactions was sent to the armament at Samos, with an exhortation vigorously to continue the war.

The Lacedæmonians had now begun a course of operations in concert with Pharnabazus, who supplied their force with a liberality, and supported them with a decision, which present a strong contrast to the cunning, timid, and avaricious conduct of Tissaphernes. But the Athenians, under the able conduct of Alcibiades, vigorously seconded by Thrasylbulus and Thrasyllus, were entering on a course of victories,* which continued till they had completely destroyed the hostile fleet, recovered much of their lost dominion, and without intrigue or solicitation, by the mere force of their successes, induced Pharnabazus to make peace, and stopped those inexhaustible supplies on which the enemy had depended. Having done all this, in the twenty-fourth year of the war, and the sixth from his banishment, Alcibiades determined to revisit his country; and as winter was approaching, he proposed to gratify the greater part of his forces with the opportunity of seeing their friends, and attending to their domestic concerns. He returned, and was received with the greatest favour, being immediately appointed commander-in-chief with greater powers than had ever been intrusted to any such officer. He had soon an opportunity both of gratifying the people, and increasing his reputation in Greece. Since the garrisoning of Deceleia, the Athenians had never ventured to conduct by land the customary procession to Eleusis in honour of Ceres. Alcibiades, with the forces from Asia, added to

the former strength of the city, now undertook to protect them in the full performance of every rite; and the train went and returned escorted by the army, without an attempt at disturbance.

No nation is recorded to have long preserved an efficient control over large and distant provinces, unless by a decided superiority in character, institutions, and civilization. Such, at least in a political and military view, was the case with the Romans; and such is yet more strikingly the case with the English government in India: for as the extent of the empire is here yet more disproportionate to the foreign controlling force; so the disadvantage is balanced by a more universal superiority, not more in the arts of peace and war, than in the tone of public morals; and, in spite of many errors and many crimes, in the general honesty of intention toward the governed, which, to the Romans, as to former Indian governments, was a principle unknown. In the numerous empires which have risen and fallen in Asia, the ruling race has seldom been of a character to attach its subjects by beneficence, or to awe them by pre-eminent courage and skill. They have generally been created by an able leader rising in a warlike tribe. They have rapidly increased; for among nations that saw in the sovereignty not a trust for the good of the people, but a prize for the boldest ruffian or the craftiest betrayer, there could be neither public spirit nor determined attachment to ancient institutions, to stand up against the thirst of conquest and plunder, in a successful army, under a popular commander. But as empire was acquired by force, so by force only it could be preserved. When the first career of victory was over, and the influence of personal character in the founder of a dynasty was gone, his feebler successors gradually lost all hold on the obedience of their officers; while the soldiery in the provinces became devoted to their immediate commander, and careless of the distant head of the empire. Accordingly, in the Persian monarchy, since the time of Xerxes, the provincial governors had gradually assumed a considerable degree of independence. They paid tribute indeed to the king, and owned a nominal allegiance; but they made separate treaties with foreign states, as we have seen in the cases of Pharnabazus and Tissaphernes; sometimes they made war on each other, each professing to remain

* In one of these battles the Spartan commander, Mindarus, was slain, and nearly every ship of his squadron taken. The dispatch, in which these tidings were announced to the Lacedæmonian government, has been preserved entire by Xenophon. It runs thus: "The luck is gone: Mindarus is dead; the men hunger; we know not what to do."

in obedience to the sovereign ; and occasionally, when visited with the royal displeasure, a refractory satrap would retain his government by arms.

Darius, the present king, appears to have felt that his empire was weakened by its unwieldy extent, and to have contemplated detaching from it the provinces bordering on the Grecian seas, to form a separate kingdom for Cyrus, his younger son, a youth of spirit and ability. The prince was sent into those provinces as his father's lieutenant, and both Pharnabazus and Tissaphernes were subjected to his command. Lysander, who had recently been appointed the Spartan admiral, on hearing that Cyrus was arrived in Sardis, where his court was to be held, immediately hastened thither. Unlike his countrymen in general, Lysander was a supple courtier and a dexterous politician. The prince's favour had already been won by an embassy from Lacedæmon, and it was raised to the highest pitch by the insinuating manners of the Spartan commander. He now joined unreservedly in the war, and supplied full pay to all the sailors of the Peloponnesian fleet.

This turn of things lowered the credit of Alcibiades, whose restoration had chiefly been procured by the promise of Persian assistance. His fleet was still the stronger, but with his limited resources and the inexhaustible supplies at the command of Lysander, it could not long continue so without decisive action. Accordingly, he led his fleet to a station in view of the enemy. But during a short absence of the general, by the folly of one of his lieutenants, a battle was provoked against orders, and lost. The defeat in itself was little important, but the news set all Athens in a flame. The enemies of Alcibiades took advantage of the popular rage—he was accused of haughtiness, negligence, and indifference to the welfare of the people ; and the only man who seemed capable of extricating the commonwealth from its dangers was dismissed from his command, without inquiry or defence. The popular fury once excited, spent itself in vague charges of disaffection, and many who had supported the Four Hundred were variously punished with death, confiscation, exile, or disfranchisement. Alcibiades did not venture to return to give an account, according to custom, of his conduct in office, but retired to a lordship he possessed in the Thracian Chersonese.

The history of Alcibiades is a striking instance how little true merit can be measured by temporary popularity. When he had wilfully inflicted on his country deeper wounds than had been given by the ablest servants of its enemy, he was recalled, received with unexampled joy and favour, and appointed to a station of unusual power and splendour. When by able and faithful service he had nearly retrieved the injuries he had done, he was for a trifling error, and that not his own, ignominiously displaced and driven into banishment. Yet let not his life afford a lesson of encouragement to unprincipled politicians. Though popular opinion in a free state be often ill-judging in a moment of excitement, it commonly settles into justice as the passion cools and the ferment subsides. Pericles was fined and Cimon banished ; but both these great men ended their days the most beloved and trusted favourites of the people. The present charges against Alcibiades were trivial and unjust ; but his previous character gave them weight, and deprived him of the confidence to challenge inquiry, and trust to the calmer judgment of his countrymen. It is frequently a part of the punishment of guilt to be shut out from the opportunity of atonement. The glory of saving his country was too great for the man who had so profligately brought it near destruction ; but in the circumstances his condemnation was unjust as well as ruinous ; and it should seem as if the injustice and folly of the Athenians had been made at once the instrument to punish the treasons of Alcibiades, and the cause of not unmerited ruin to themselves.

In place of Alcibiades, ten generals were appointed, of whom the first was Conon, a man of great ability. Lysander was soon after superseded by Callicratidas, according to the custom of Lacedæmon, which suffered no man to be admiral for more than a year. The new commander was a man of decision, plain good sense, and honesty, and a rigid disciple of Lycurgus. He first collected reinforcements, which made his fleet decidedly superior. But finding that the friends of Lysander were caballing against him, and exciting discontent at so frequent changes of command, he called together the Lacedæmonians of the armament and spoke thus. " I could be well content to stay at home, and if Lysander or any other pretends to be a better seaman, he may

be so for me. Being, however, appointed admiral, I must do my best in that capacity. Will you support me, or shall I sail home, to tell how things stand here?" The cabal was silenced. Callicratidas then went to the court of Cyrus to ask a supply; but he was not a courtier, and it did not occur to him to smooth his way by compliments, or to guard against any ill offices which might have been done him by Lysander. He was coldly received, and put off from day to day; till, disgusted at his treatment and at all he saw, he departed, exclaiming that the Greeks were most wretched who would so truckle to barbarians for money, and that if he returned he would do his utmost to end the necessity of doing so, by reconciling Athens and Lacedæmon. He obtained a loan from the Milesians and Chians, and sailing to Lesbos, took Methymne by assault. All goods were given up to pillage, but the slaves were collected and sold. Callicratidas was urged by the allies to sell the Methymnæan citizens also, but he declared that, under his command, no Greek should be made a slave. We have here a noble example of the power with which, in moral questions, a sincere, upright, and benevolent nature, can enlighten the judgment and clear it from the prejudices of an illiberal education. Callicratidas was a plain straightforward man, of moderate capacity, and not likely to seek for maxims of policy more refined than those of his country; he was a zealous and even bigoted adherent of the institutions in which he had been born and bred, which, beyond all others, produced in men contempt of human suffering, and indifference to the welfare of all communities but their own. Yet his heart was right, and he was led by native integrity to avow and act on a principle of generous humanity, which, though fitted to benefit all Greece by diminishing the miseries of war, was never proclaimed before or after by the most enlightened and liberal of Grecian statesmen.

Callicratidas obtained an opportunity of attacking Conon with superior force, defeated him, and having taken thirty triremes, besieged the rest in Mitylene. The Athenians, on hearing Conon's danger, manned a powerful fleet, on which all embarked who were bound to naval service, and many even of the cavalry, who were generally exempt. This was not enough, and the deficiency was made up with slaves, who were rewarded with

their freedom. Eight of the ten generals were on board. The hostile armaments engaged near Arginusæ, a knot of small islands between Lesbos and the mainland. The Athenians were so far superior in force that Callicratidas was advised to decline an action: he answered that his death would be a small loss to Sparta, but that flight would be disgraceful. The reply was spirited, but singularly injudicious, since he hazarded not his life alone but the fleet which he commanded, and perhaps the issue of the war. Yet the superstitious rigour of his obedience to the precepts of Lycurgus, sets in a stronger light the virtue which could lead a mind so little distinguishing to depart from the habits of his country where they were ungenerous and inhuman. The battle was long, but it ended in the complete defeat of the Peloponnesians. Callicratidas perished and seventy ships were taken.

The generals proceeded to the relief of Conon, leaving a squadron under Theramenes and Thrasybulus, who were then captains of triremes, to collect the dead and save the men who were floating on the wrecks. This was prevented by a storm, and the crews of twelve Athenian ships, that had been wrecked in the battle, perished. Six of the generals returned to Athens, leaving the other two with Conon at Sámos. On arriving, they were imprisoned by the council of five hundred, and being brought before the general assembly, they found themselves accused by Theramenes, of having neglected those wrecked in the battle. Their death was evidently predetermined by a powerful faction, for they were not allowed to conduct their defence in the usual form, but each was permitted only to make a short speech. They had left the care of the wrecked, they said, to Theramenes and Thrasybulus, men confessedly sufficient for the charge. If the duty had been neglected, those who now accused them were to blame; but the fact was that the weather had made it impossible, and this they brought many witnesses to prove. It was plain that if the question were now put, the generals would be acquitted; but the accusers having on their side the presidents and the majority of the council, the former declared that there was not light to judge of the show of hands: the decision was referred to the next assembly, and it was resolved that the council should determine the manner of judgment. Meantime persons were procured to

show themselves in deep mourning, as for relations lost after the battle; and a man was suborned to state to the assembly that he had saved himself on a flour barrel, and had been conjured by his drowning comrades to tell the Athenians how the generals had abandoned those who had deserved so well of their country. The council resolved that the people should decide by ballot, whether or not the generals were criminal in suffering those to perish who had conquered in the battle. This mode of proceeding was as illegal as unfair; and on this ground it was opposed by Euryptolemus, who threatened to impeach Callixenus, the author of the resolution. But the multitude cried out, that it was intolerable if the people were not allowed to do its pleasure; and one of Theramenes's faction was emboldened to declare, that whoever should presume to check the assembly, he would move that his fate should be decided by the same ballot with that of the generals. Euryptolemus was obliged to retract his threat; but the prytanes refused to put the question on the illegal decree. Callixenus accused them of contumacy, and the multitude indignantly called for those who resisted the orders of the people. One yet stood firm, and this was Socrates the philosopher, who persisted that he would not act otherwise than according to law: the other prytanes consented to propose the resolution of the council. Euryptolemus, compelled to withdraw his opposition to the decree, as one which could not regularly be even taken into consideration, still resisted it as unjust and inexpedient, and proposed to try the generals separately, according to established law. The question was put, and the motion of Euryptolemus declared to be carried; but the show of hands being repeated at the demand of one of the faction, was now declared to be for that of Callixenus. The people proceeded to ballot, according to the decree; the eight generals were condemned by one vote, and the six present executed. Such was the gratitude and justice of Athens to those who had won for it the greatest victory obtained in the war.

The measure of this people's iniquity now was full, and the victory of Arginusæ, which ought to have saved the commonwealth, proved the prelude to its ruin. The government did not recover its steadiness after the late violent overbearing of law and justice. The people repenting their fury, bound five of the instigators to answer for their conduct.

These escaped before trial, and Callixenus, who was one of them, made his peace in an after revolution; but he lived, hated and avoided, and perished by hunger in a time of scarcity. The banished were recalled, the disfranchised restored to their political rights, and oaths of concord taken by the people; but nothing could bring back union or energy. Yet a powerful fleet was intrusted to Conon, and five others; while Lysander again commanded for Lacedæmon, and by his able, active, and conciliatory conduct, retrieved her affairs.

At length the hostile fleets were watching each other,—the Peloponnesians in the harbour of Lampsacus, on the Asiatic side of the Hellespont, a defensible station, with a market close at hand; the Athenians, on the open beach of Ægospotami, precisely opposite, the nearest market being that of Sestos, two miles off. It is pleasing to find in a character, which we have frequently had reason strongly to condemn, one instance of disinterested patriotism at a time when he had recently been ill treated by his country. Alcibiades was living at his castle in the Chersonese, and saw the disadvantageous position of his countrymen. He went to the generals, and suggested the expediency of removing their forces to Sestos, where they would, equally with the enemy, have the advantage of a town and harbour, and would be able to choose when to fight. The admonition was treated by some of the generals with unmannerly disdain, but its wisdom was soon made manifest. For four days the Athenians had offered battle daily, which Lysander declined; and afterwards the sailors had wandered to Sestos, and about the country, to seek provisions. Every day's inaction on the part of Lysander increased their confidence, and consequent disorder. But on the fifth day Lysander, waiting till the Athenians were dispersed according to their custom, suddenly pushed his fleet across the bay, and surprised their ships before the seamen could be collected. Nine vessels, all belonging to the division of Conon, had their complete crews aboard, and these escaped; but all the rest were taken, in number one hundred and seventy. Conon sent one ship to Athens, to carry the news of the defeat; and thinking that the war was now desperate carried the rest to Salamis in Cyprus.

The greater part of the Athenians, with five of the generals, were made

prisoners, and Lysander assembled the allies to deliberate what was to be done with them. The Athenians were accused of many flagrant violations of the laws of war. Among other charges it was said that they had determined, should they win the battle, to cut off the right hands of all their prisoners; and Philocles, one of the generals, was particularly accused of having thrown down a precipice the entire crews of two captured triremes. It was voted that all the Athenian prisoners should be put to death, excepting Adeimantus, one of the generals, who it was said had opposed the inhuman decree respecting the prisoners. Lysander, asking Philocles what he deserved, who had been first to violate the laws of Grecian warfare, began the execution by killing him with his own hand; and all the Athenian citizens were put to death, to the number of three thousand. The retaliation of cruelty for cruelty is a measure of very pernicious example, and to be justified, if ever, only by the most pressing necessity of self-defence. That plea would in the present case be absurd. The intention imputed to the Athenians, with their former conduct on many occasions, was a fit object of abhorrence, not of imitation; but to justify their massacre on the ground that they had set the first example of lawless cruelty to Greece, required surely more than ordinary effrontery in the officer of a power, which in the beginning of this very war, while yet unprovoked by any barbarities of the enemy, had continued for many years habitual military execution, not on enemies taken in arms, but on peaceful merchants and unoffending neutrals.

The navy of Athens being totally destroyed, Lysander could take possession, unopposed, of its dependencies. From each he allowed the Athenian garrisons to depart to Athens, but thither only. He knew that against the uncommon strength of that city famine only could avail, and therefore the more numerous the persons in it, the surer and speedier would be its reduction. He soon blockaded Athens with his fleet, while by land it was besieged by both the kings of Lacedæmon, with the whole strength of the Peloponnesian allies.

The news of the defeat at Ægospotami carried dismay to Athens. The people remembered the fate of the miserable Scionæans, the Æginetans, and

many others; but, above all, of the Melians, the colonists of Lacedæmon, whom they had slaughtered without a shadow of just provocation in the mere wantonness of power. Expecting such mercy as they had shown, they prepared to endure to the utmost, blocked up all the ports but one, and made all ready for defence. No assault was made, but famine soon began to be felt, and many died of hunger before capitulation was proposed. To the necessary evils of defeat and blockade, there were added those of internal dissension. The government had been long unhinged by factious struggles, which were now embittered by the irritation of suffering, and the sullenness of pride contending with despair. Long resistance was impossible; concession only could save the city, and it was doubtful whether the most abject concessions would be accepted—yet, the Athenians, doggedly refusing to acknowledge what they inwardly felt to be true, passed votes of punishment on any who should propose such sacrifices. The popular favourite of the day was Cleophon, a warm opposer of all concession; and his power being commensurate to the violence of the passions by which he was supported, he was enabled to surpass all former demagogues in insolence and arbitrary conduct; till, in a subsequent fluctuation of the popular mind, he was accused, and put to death. At length ambassadors were sent with the offer, that the Athenians would be subordinate allies of Lacedæmon, retaining the Peiræus, and all the fortifications. On the border of Laconia the ambassadors were met by a message from the Ephori, informing them that the terms they brought were known at Lacedæmon, and that, if they wished for peace, they must come better instructed. This repulse raised the consternation to the highest pitch, the Many now expecting nothing less than to be sold into slavery. The ferment was increased by the not unreasonable suspicion that the oligarchical party would willingly make terms for their own exclusive advantage. It was understood that a principal demand of Lacedæmon would be, the demolishing ten furlongs of the long walls. This was a tender point with the Athenians, and a vote was passed forbidding even the proposal of such a concession. In this state of hopeless and aimless agitation, Theramenes de-

clared that, if he were sent to Lysander, he would ascertain whether the purpose of the Lacedæmonians, in requiring the demolition of the walls, was to make slaves of the people, or merely to insure their political subjection as a subordinate state. Being sent to Lysander, he abode with him more than three months, awaiting the time when the increasing pressure of famine might have so far broken the spirit of the Athenians, as to induce them to entrust the business unreservedly to him. At length returning, he said, that Lysander had hitherto detained him, and now referred him to Lacedæmon; and the assembly was persuaded to send him with nine others to Lacedæmon, fully empowered to act according to their discretion.

The Lacedæmonians, hearing that the ambassadors now came with unrestricted powers, held a congress of the allies, to determine the fate of Athens. The Corinthian and Theban deputies vehemently urged its total destruction; but the Lacedæmonians adopted a wiser as well as more generous policy. Peace was made on the conditions that the long walls and the walls of the Peiræus should be demolished; all ships of war, but twelve, given up; the exiles restored; and that the Athenians should follow, by land and sea, wherever the Lacedæmonians might lead. Thus depressed and oligarchically governed, Athens, it was thought, might be a valuable dependency of Lacedæmon, and perhaps an useful counterpoise to the ambition of Thebes or Argos. The terms were unwillingly but unavoidably accepted by the Athenians; Lysander entered the harbour; the exiles returned, and the demolition of the walls was begun to the sound of festive music: for that day, says the Athenian historian, Xenophon, was thought the beginning of freedom to Greece. We shall find that the general opinion was erroneous, and that the weaker states gained little by the change of masters. The war had lasted nearly twenty-seven years. (From B. C. 431 to B. C. 403.)

Alciades was not among the exiles restored. He remained on his Thracian lordship, an object of jealousy both to Lacedæmon and to the new government of Athens. At last, to escape the persecution of Lacedæmon, he went into Asia. When residing there, his house was attacked by a tumultuous assemblage of people, at whose instigation is

uncertain. The house was set on fire. Alcibiades sallied with his servants, and none dared to meet him hand to hand; but he was overwhelmed from a distance with darts and arrows, and thus slain, before he had reached his fortieth year.

CHAPTER VII.

Of Greece, from the termination of the Peloponnesian War, to the peace which followed the battle of Mantinea: and of its Colonies in Sicily, from the destruction of the invading Athenian army, to the death of Timoleon.

SECT. I.—Before the Peloponnesian army quitted Athens, the chief power was vested in thirty persons nominally elected by the people, though at this moment there could be little freedom of choice. The pretended object of their appointment was to reform the laws and remodel the government on its ancient principles: but the new constitution being still kept back, while they disposed of the existing magistracies according to their pleasure, it grew manifest that they aimed at perpetuating their own dominion. At first their acts were popular, and continued so while confined to the prosecution of those who had been malicious informers under the democracy. For their further projects foreign support was needed: communicating, therefore, with Lysander, they obtained through him a Lacedæmonian guard. The pretext for sending it was to protect them in clearing the city of disreputable persons, and in settling the state; but when strengthened by it, the thirty proceeded without scruple to the arrest of every citizen of credit who seemed likely to oppose their usurpations.

The most eminent of the Thirty were Critias and Thérámenes. Critias had great abilities, high rank, and ample fortune, with a haughty and violent temper, embittered by a banishment inflicted on him by the people. He now proposed to secure to the Thirty, and to himself as their chief, the despotic rule of Athens under Lacedæmonian protection. By extensive executions he thought at once to gratify his revenge, and remove all suspected opponents; and diminishing the number of citizens signified little, for all necessary labours might be done by slaves, and foreign attack was prevented by the power of Lacedæmon.

dæmon. The views of Theramenes were very different. That bold and dexterous intriguer, though selfish, trimming, and unscrupulous, was not tyrannical like Critias. He was naturally mild and moderate, a lover of popularity, and averse from needless bloodshed; though in the prosecution of the generals, after the battle of Arginusæ, he had shown that no crime would stop him in the pursuit of his ends. He had successively assisted in raising and overthrowing every party which had lately risen in Athens; and from his frequent change of sides he was popularly known by a name denoting a sort of shoe, that might be drawn on either foot indifferently. The most remarkable features of his character were the acuteness with which he judged when the predominant faction was about to fall, and the decision with which he changed his side, before to common eyes the change seemed prudent. The measures which alarmed him as impolitic had commonly disgusted him by their violence, and enabled him to justify on public grounds his abandonment of the falling party; and this, with his boldness in taking his part while it seemed yet hazardous, had preserved to him in all his turnings some degree of popular esteem.

He now vainly remonstrated with his colleagues. Without a party, he said, no oligarchy could stand; and by these proceedings all parties were offended and alarmed. But Critias, having secured most of the Thirty in his interest, was eager to rid himself of his only rival in ability and influence; of a man whose views were inconsistent with his own, and who, finding himself powerless among the Thirty, would probably be ready, able, and bold to work their overthrow. The danger most feared was a rallying of the people round Theramenes, such as had already taken place against the Four Hundred. To obviate this, a catalogue was formed of three thousand citizens, to whom only the sovereign power in assembly, with exclusive eligibility to magistracies, was given. All other citizens were to be under the absolute dominion, not of the Three Thousand only, but of the Thirty. A review of arms was ordered, of the Three Thousand in the market-place, of the other citizens in smaller divisions in different places of the city. The Thirty then sending their own confidential adherents, supported by the Lacedæmonian troops, disarmed in

detail all the citizens except those of the Three Thousand; and the arms being carried to the temple of Minerva, in the Acropolis, were placed in the keeping of the Lacedæmonian garrison.

Having thus prevented all effectual opposition, the Thirty did their pleasure. Many were put to death through personal enmity, and many for their wealth: and it was actually voted that each of the Thirty should select one man, according to his pleasure, from the foreign sojourners in Athens; and that all, so chosen, should be put to death, and their property carried into the treasury. With the produce of confiscation they furnished pay for the Lacedæmonian troops, and rewards for the most forward of their own adherents; but as means were wanting to attach by favours a number sufficient to support them against the just hatred of the rest, they adopted the abominable expedient of compelling men to execute their most tyrannical orders, that, being involved in the same guilt, and liable to the same resentment, they might support the present government as their only chance of protection. Among those on whom this policy was practised, Socrates is a solitary instance of determined resistance. He was commanded with four others to apprehend and bring to Athens Leon of Salamis, a man whose life had been blameless, but whose wealth was a tempting prey. This order Socrates disobeyed as illegal; the other four performed it, and Leon was executed. The life of the philosopher was saved by his poverty, and by the speedy downfall of the tyrants whom he had offended. We have already seen the conduct of Socrates at the impeachment of the six generals; and it is remarkable that the only occasions, on which his name appears in the political history of Athens, should both be instances of bold resistance to the injustice of powers which none other dared withstand; both proofs that his actions were governed by the favourite principle of his ethics, that no outward violence could make the virtuous man either criminal or unhappy.

Thus far the council had been readily subservient to the Thirty, but the next attempt was harder. Theramenes had grown more decided in opposition to his colleagues as their tyranny grew more violent: his destruction was resolved on, but the council was not yet prepared to concur in it. Persuasion was used with some of the members, menace with

others. Matters were arranged with those whom the tyrants most trusted—the council was summoned—young men with hidden daggers surrounded the hall—the Thirty attended, and Theramenes among them, when Critias rose and accused him of treason against the existing government. Theramenes defended himself with readiness, eloquence, and skill, and so showed the expediency of the measures he had recommended, and the iniquity and danger of those pursued by Critias, that he disposed a majority of the council in his favour. But Critias knew that now either he or Theramenes must fall, and after short conference with the Thirty, he went out and directed his armed attendants to show themselves. Then returning, he addressed the council thus:—"I hold it my duty as president of the Thirty to prevent my associates in the government from being misled. These men before you, say, that they will not endure the acquittal of one who is known to be undermining the oligarchy. In the new constitution it is enacted, that the Three Thousand of the catalogue shall be liable to death only by the judgment of the council; but all others by that of the Thirty. I then, with your unanimous approval, strike out this man from the catalogue, and we, the Thirty, condemn him to death." Theramenes sprang to the altar, and thence appealed to the sacredness of the place, as well as to the protection of the laws, reminding the councillors that if they did not protect him their names might be erased from the catalogue with as little ceremony as his own. He was, however, dragged from the altar to prison, and compelled to drink the fatal cup of hemlock, the common punishment for state criminals at Athens. His courage did not fail. He calmly drank the poison, and, dashing the remainder on the floor, as was the custom of revellers, "Be this," he said, "for Critias!"

The Thirty now tyrannised without restraint. Lands and country-houses were seized for themselves and their adherents, and the owners executed. All citizens not of the catalogue were commanded to quit Athens, and most took refuge in Peiræus; but as many continued to be taken thence and executed, they fled, chiefly to Megara and Thebes. Thrasybulus, who was then residing in Bœotia, was encouraged by the multitude of exiles to strike a blow against the despots. It was mid-winter, about

six months after their establishment, when, with seventy companions, he occupied Phyle, a border-fortress of Attica. The Thirty led their forces against the place, and assaulted it without success; and when they thought of blockading it, a heavy fall of snow obliged them to retreat. To prevent, however, the plundering of their lands, they sent the greater part of the Lacedæmonian auxiliaries with a body of their own horse to a station near the place; but Thrasybulus having now collected seven hundred heavy-armed soldiers, surprised their camp, and defeated them.

The tyrants now resolved to secure a refuge in Eleusis, in case they should be driven from Athens. The cavalry, being composed of the wealthiest families, was generally favourable to oligarchy, and the Thirty had laboured to attach it to them by favours, and considered it as the trustiest part of their force. They went with it to Eleusis, and arresting all the townsmen who were suspected of disaffection, brought them to Athens. The citizens of the catalogue, both horse and foot, were assembled to pass sentence on the prisoners, and the Lacedæmonian troops were present in arms to discourage opposition. Critias then addressed the assembly thus:—"The government which we are establishing is formed for you no less than for ourselves. It is fit that as you share its advantages you should also share its dangers. You must, therefore, condemn the arrested Eleusinians, that your fears and hopes may be the same with ours." The votes were secretly given, not openly as was usual in Athenian criminal proceedings, and three hundred prisoners were condemned at once.

Not long after, Thrasybulus, with about one thousand heavy-armed troops, entered Peiræus unopposed, by night. In the morning the Thirty attacked them with very superior numbers, but were, nevertheless, defeated, and Critias slain. A truce was obtained according to custom, by the defeated, for the burial of the dead, and while it continued many from both sides assembled in conversation. The party of Thrasybulus professed all willingness to be reconciled to the Three Thousand, and imputed the evils suffered to the Thirty only, "who, for their private interests, had destroyed as many Athenians in eight months, as the Peloponnesians in ten years, and had forced on this most hateful and

unholy civil war." It was manifest that the Athenians from the city were impressed by what they heard, and their leaders anxiously hurried them away. Next day the Thirty met to deliberate what was to be done, while the Three Thousand were in altercation in various parts of the town. Those who had been forward in the late violences urged resistance to the utmost; while others, who thought they had not sinned beyond forgiveness, wished for accommodation. In the end the tyrants were deposed, and a committee of ten appointed to negotiate peace with the party in Peiræus. Two of the Thirty were placed in the committee, the rest retired to Eleusis. But the Ten, instead of treating with Thrasybulus, endeavoured to secure to themselves the power from which the Thirty had fallen. Many of the Three Thousand were on their side, and nearly all the cavalry, and they looked for aid to Lacedæmon. Meantime the late exiles becoming superior, as well in number as in zeal and union, commanded the country, and prepared to blockade the city.

Lysander now being appointed to command for Lacedæmon in Attica, made ready to besiege Peiræus. No prudence or bravery in Thrasybulus and his followers could withstand the power of Lacedæmon; but the state of parties in that city gave them hope. Many, among whom was Pausanias, one of the kings, were jealous of Lysander, and, above all, of the commanding influence which he seemed likely to gain in Attica. The assembly was persuaded to decree that the business of Athens required the presence of a complete Lacedæmonian army; and such an army being sent thither under Pausanias, the appointment of Lysander sunk into a subordinate command. One smart but indecisive skirmish took place, but the real purpose of the Spartan king was to settle matters by negotiation, not by battle. A treaty was arranged, by which all Athenians, the Thirty excepted, and some few others of the most guilty, were restored to their rights, under an oath of universal amnesty. Eleusis was given as a residence to the excepted, and to all who might fear to live in Athens. Pausanias then led away the Peloponnesians; and Thrasybulus, with his followers, marched in procession into the city, and offered a thanksgiving sacrifice to Minerva. A general assembly then was held, in which, by the advice of Thrasybulus, the old

constitution was entirely re-established. The people soon after, being alarmed with the news that those in Eleusis were hiring mercenary troops, marched out against them with their whole force. The leaders in Eleusis were murdered in a conference; a great crime, but the only one which disgraced the restoration of liberty to Athens. Peace and amnesty were offered and accepted; the refugees returned; the people kept their oaths, and the government was carried on with concord. Thus the Athenian commonwealth was completely restored, and Attica reunited.

The vices have already been remarked which were produced in the Athenian people, by so large a portion of them living as pensioners on the state. This evil was necessarily increased by the recent series of revolutions, which had completely interrupted the course of peaceful labour, made many poor who had formerly been rich, and many idle who had been industrious. At the same time the poorer citizens had been increased in number by the admission of slaves and foreigners, in reward for services against the Lacedæmonians, and against the Thirty. The number of pensioners being, therefore, increased, while the foreign sources of revenue were cut off, the extortions, which had formerly been practised on the subject-states, were now directed against wealthy men at home. It is probable, however, that the total amount of wealth thus levied was not immoderate; for, with the foreign command, the expenses of fleets and armies had passed away, and it was far less easy to bear hard on those who were present and possessed of extensive influence, than to plunder the defenceless tributaries. But cases occurred of great individual hardship; and there is reason to fear that the public indigence sometimes appeared in a shape peculiarly odious, and that the judges might be biassed against a state defendant, by the magnitude of the confiscation. Other evils arose: so many violent revolutions had necessarily created numerous personal enmities, and confirmed a tendency, always too strong in the Athenians, to suspect in the most trivial occurrences a plot against the government. But none of these evils can fairly be traced to the conduct of Thrasybulus and his followers, which was singularly prudent and moderate. They were the natural result of the previous history of Athens, of the wars it had waged, the dominion it had

held, and the revolutions it had undergone ; and, though in some degree they may justly be regarded as a testimony against its unbalanced democracy, it is probable that no other government known to Greece would have stood so fearful a trial without yet greater mischiefs.

About three years after the restoration of democracy, Athens was disgraced by the condemnation of the most excellent man she ever produced, the philosopher Socrates. But before relating his death, we will look to the state of moral science before his time, and the revolution he worked in it. The early Grecian philosophers fall into two great classes, the physical speculators, and the ethical and theological. Of the former the most eminent was Democritus, the author of the atomic philosophy ; which considers the world to be made up of atoms, or indivisible particles of matter similar to each other, and all natural appearances to be results of their different positions and motions. In explaining sensible phenomena, Democritus shewed perhaps more knowledge and acuteness than any other Greek : but not content with this, he pushed his atoms into subjects where they had no place ; represented thought and sensation as modifications of matter and motion ; declared that there was no God nor spiritual being ; and that the order and harmony of the world were produced by blind chance, amidst the infinite combinations of moving atoms. He had many followers, as well in his atheism and materialism, as in his physical principles. For a specimen of the ethical and theological philosophers we may take Pythagoras, a Samian, but the founder of a sect very prevalent in Grecian Italy. His morality and religion were purer than those current in Greece. He had travelled into Egypt, and brought apparently from thence some remnants of primitive tradition ; but he had also brought a fondness for the arts of Egyptian priestcraft. He aimed at enlightening, not the many, but a privileged few ; who, by superior intelligence, becoming rulers in their several cities, were to govern them with humanity and justice. Accordingly, admission into his sect was made difficult, and his doctrines were veiled with a mystical language, calculated to foster a blind reverence in the disciples towards their master, and, in the vulgar, towards the disciples. Some practical conclusions were published to all, but the principles were accessible

only to the most instructed. Here, then, we have two principal classes of philosophers,—those busied in physical speculations, which were often tainted with atheism and materialism ; and those who chiefly studied morals and theology, in many instances not unsuccessfully, but always studiously veiling their researches from the many. After these arose the sceptics (doubters) and sophists—the last, a name not marking any particular doctrines, but describing a class of men whose profession was to cultivate the talents of youth. It will readily be supposed that with common minds the object of such cultivation was not the highest absolute moral and intellectual excellence, but the best training for the pursuit of wealth and power. In Grecian communities eloquence was the talent most available to the aspiring ; and, accordingly, it was what the sophists chiefly undertook to teach. They professed to possess and impart the power of recommending successfully any side of any question : from habitual indifference to truth in discourse, the passage to mental doubt was easy ; and most of the sophists became sceptics in philosophy. Of this Protagoras was an example, perhaps the most eminent among them, who held that knowledge was no more than sense or opinion ; that to every man what he felt or believed was true ; and what he disbelieved, false ; that there was no absolute truth, but the same thing might be true to one man, and false to another. Scepticism naturally leads to looseness of morals ; for no man who doubts the existence of certain principles, will sacrifice his present inclinations to the supposition of their truth. Accordingly, the practical precepts of most of the sophists were highly favourable to the corrupt propensities of their pupils. As opinion was the measure of truth, so inclination was the measure of good ; and that man was the happiest, who had power and will to gratify his desires without restraint or regard of others. Justice was sometimes a name for the interest of the strongest, sometimes a mere creature of law without foundation in nature ; a scarecrow set up by the weak to deter the strong from taking those advantages to which they were naturally entitled.

Socrates attended but little, except in early years, to physical science ; but he turned all the powers of his mind against the atheists and materialists, the sceptics, and those who set up pleasure as the only good. Against the first

he maintained most ably the being of a God, the incorporeal nature and immortality of the soul. In his disputes with the sophists and sceptics, he availed himself of a readiness and dexterity in argument superior to their own; and drawing them by an artful series of questions into inconsistencies and absurdities, at once exposed their arrogance and the falsehood of their views. He delighted in humbling insolent pretenders to superior knowledge, and he confessed and dwelt on the imperfections of the human understanding, as an instrument for the investigation of truth: yet he did not, like most of the sophists, make that imperfection a reason for denying existence to the truth which he was unable completely to fathom; but rather a motive to greater humility and candour in the search, and to a modest reliance on divine assistance, to guide man's judgment on points important to his welfare, where his own unassisted faculties were inadequate to the task. He stated and enforced a system of morality and religion, purer and loftier than that of the Pythagoreans; but, unlike them, he was accessible to all, always clear in his statements as far as possible, and ready to explain whatever was not understood. Hence, he was said to have brought down philosophy from the clouds, and made her converse with men. Ever earnest in recommending temperance, benevolence, piety, justice, and showing that man's happiness and dignity are determined by his mind, and not his fortunes, by virtue and wisdom, not by rank and wealth, his own life was the best example of his precepts. We have seen his unbending uprightness when forced into public office, and his private conduct was no less exemplary. Barefooted and poorly clad, he associated with the rich and gay as with the needy, in the same spirit of cheerful good-will: his advice and instructions were given to all without fee or reward, for his spirit was rigidly independent, and, if he possessed little, he wanted less.

This excellent man was impeached before the popular court of reviling the gods which Athens acknowledged, of preaching other gods, and of corrupting the youth. The latter charge was principally supported by the conduct of Alcibiades and Critias, both of whom had been his pupils. He triumphantly repelled the accusations; but his accusers were powerful, his judges prejudiced, and his

danger was increased by the manner of his defence. It was usual for accused persons to supplicate favour with tears, and endeavour to move pity, by exhibiting their children. By this the pride of the judges was gratified, when they saw sometimes the most considerable persons obliged to descend to supplication. But Socrates considered this as equally unworthy of himself, and disrespectful to the tribunal, which ought to be directed by justice, not by favour; and the judges were offended at his denying them the accustomed homage. He was condemned to death. He again addressed the court, declaring his innocence, and observing that the charges against him, even if proved, did not amount to a capital crime. "But," he said, in conclusion, "it is time to depart; I to die, you to live; but which for the greatest good, God only knows." The condemnation took place on the eve of the day when the sacred ship of Theseus * was sent with offerings of thanksgiving to Apollo at Delos. All executions were forbidden till its return, and thus the death of Socrates was respite for thirty days, during which his friends had free access to him in prison. Means were concerted for his escape; the jailor was bribed, a vessel prepared, a retreat in Thessaly provided. But Socrates had always taught the duty of obedience to the laws, and he would not set an example of breaking them. He waited the return of the ship, spent his last morning in calmly reasoning with his friends on the immortality of the soul, and the happiness derived from virtue, took the fatal cup of hemlock, and died.

The philosophy of Socrates was wholly promulgated in conversation, not in writing; but his doctrines and character have been handed down to us by two of his most gifted pupils. Plato, the greater of them by far, possessed a mind almost unrivalled for its completeness at all points; and uniting the greatest acuteness, vigour, and comprehension of understanding, with a most glowing and poetical imagination, and matchless dignity, power, and beauty of style. But his genius was too original and peculiar to fit him for the mere reporter of another's opinions, and much of what he has written under the name of Socrates, must be considered as his own. The bias of his mind was to abstract speculation; to the discovery of the principles

* See page 6.

of morality, rather than the application of its precepts to particular cases. In his fondness for lofty contemplations, he sometimes slides into mysticism and obscurity,—a tendency which is not observable in the discourses of Socrates, as delivered by his other celebrated disciple, Xenophon. The acuteness of Plato's Socrates in confounding the arrogant falsehood of the sophists, and his skill and patience in developing the reasoning powers of his younger associates, are probably faithful copies from the great original: but his deep and subtle speculations on the nature of moral beauty and goodness, however admirable in themselves, appear to be characteristic of the writer, rather than his master; whose turn of thought seems more truly expressed by the sobriety of mind and practical good sense which are every where visible in the Socrates of Xenophon.

SECT. II.—About the end of the Peloponnesian war, the death of Darius had left the throne of Persia to his son Artaxerxes. Mutual jealousy and quarrels ensued between the new king and Cyrus, which ended in the latter leading an army to dethrone his brother about four years after his accession. The principal trust of Cyrus was in a body of above 10,000 Grecian mercenaries, who did their part so well, that in a great battle at Cunaxa, near Babylon, they defeated all opposed to them. But Cyrus, being roused to fury at the sight of his brother, made a violent charge on the body in which he was posted, wounded Artaxerxes with his own hand, and was himself killed in the encounter. All the Asiatic followers of Cyrus now submitted to the king. The Grecian leaders were invited to a conference, and treacherously murdered; and the army was left without commanders in the heart of Asia, separated from Greece by vast tracts of hostile territory, and obliged to begin its march through extensive plains, in the face of innumerable light cavalry. An assembly was held to choose new leaders, and among those who came forward was Xenophon, a young Athenian, who has just been mentioned as the biographer of Socrates. Xenophon was elected one of the generals, and it was in a great measure by his superior ability that the army overcame all the obstacles which beset it. He has given an account of the expedition, equally interesting as a narrative, and admirable as a specimen of composition. He has also written the most authentic

history of the times now in question. Few persons have been equally remarkable for the union of literary and warlike ability; but though the course of his life was free from blame in the eye of his contemporaries, it is much to be regretted by better taught moralists, that the friend and biographer of Socrates should have gathered his laurels in so vile a trade as that of a mere hireling military adventurer.

A war broke out between Lacedæmon and Persia. The Lacedæmonian army in Ionia was at first ill commanded, and proved alike oppressive to its allies, and inefficient against its enemies. But Dercyllidas succeeding to the command, exercised it with great ability. He restored good order to the army, and prosperity to the country, and conciliated the affections of all who were under his administration. He was no less bold and skilful in military enterprise than judicious in civil regulation; and he obtained peace from Pharnabazus and Tissaphernes, on the terms that all Grecian cities should be independent. The complete ratification, however, of the treaty depended on the king and the Lacedæmonian government.

Since the end of the Peloponnesian war, Lacedæmon had been little less than all-powerful in Greece. The change was in some respects a happy one, but not upon the whole. The smaller states were indeed released from the grinding tributes, which had been wrung from them to support the navy of Athens, and to feed and amuse its idle and luxurious people. But the democratical governments were generally changed into oligarchies of the narrowest kind, dependent for existence, not on the willing acquiescence of the people, but on Lacedæmon; and we have already seen, in the conduct of the Athenian Thirty, the abuses to which such a power was liable. Many states were made the residence of Spartan governors, who were generally oppressive and arbitrary. Bred up in contempt for all mankind, except their own fellow-citizens, they considered as rebellion all opposition to the will of a Spartan officer. Their tempers were harsh, their manners rude. Their notions of law were entirely derived from the institutions of Lacedæmon; and as popular complaint was never there allowed against any measures of persons in authority, they would put down all remonstrance, however moderate and lawful, by the most violent means.

Athenian officers were commonly men of milder temper and more polished manners, and more accustomed to respect the feelings of the persons under their command. A proverb was current in Greece, that the Athenians were better as individuals, the Lacedæmonians as a government; and it illustrates the conduct of the two states towards their subjects. The Athenian government was an expensive, the Lacedæmonian, a frugal one; and therefore the former oppressed its subjects with extortions, from which those of the latter were exempt. In case of revolt, the passionate revenge of the Athenian people was frequently more bloody than the unfeeling, but deliberate policy of its rival. The occasional sufferings of the allies of Athens were, therefore, greater; but they had more freedom of speech and of remonstrance, were less exposed to daily vexatious interference with their domestic government, and less given up, individually and collectively, to the self-willed tyranny of officers in command; and the authority of the Athenian governors, such as it was, was commonly exercised with more forbearance.

It was usual, as we have seen, in the different provinces of Greece, for the leading city to claim an authority, which the smaller towns were unwilling to allow. This pretension was usually discouraged by the imperial states, which wished to depress the larger cities, and to bring the smaller into dependence on themselves. To make the Bœotian towns independent of Thebes had always been a favourite object with Athens; a line of conduct which had ensured to that state the determined enmity of Thebes. While Athens was powerful, the Lacedæmonians were glad to maintain the claim of Thebes to the dominion of Bœotia, and thus to favour a valuable ally, and to keep in friendly hands a power which would otherwise have fallen to Athens. But when Athens was depressed, the case was altered, and Lacedæmon began to favour the independence of the towns. The Thebans were offended, and the enemies of Lacedæmon in that state gained strength; and as these were always the party friendly to democracy, the Theban oligarchy was changed into a popular government. Democracy also gained ascendancy in Corinth—so that the two principal allies of Lacedæmon were alienated. These changes appear to have taken place very soon after the Peloponnesian war: how-

ever no actual quarrel ensued; but during the Asiatic command of Dercyllidas, the Lacedæmonians put down by arms the pretensions of Elis to command over the neighbouring towns.

King Agis died, (B. C. 398,) and was succeeded by his brother Agesilaus, whose first year was signalised by the discovery of a plot to effect a change of government. Lycurgus had allowed no distinction of rank among his people, except such as arose from age or merit; but in the course of ages all the powers of government had been ingrossed by certain families peculiarly distinguished as Spartans. The origin and nature of this distinction are not ascertained: but the most probable opinion seems to be that of a very acute and searching historian (Niebuhr), that the Spartans were those legitimately descended from the original citizens; whereas, the common Lacedæmonians had insensibly grown up, till they formed the most numerous portion of the people, from marriages contracted by Spartans with aliens, and from the association of strangers and vassals as members of the community, but upon an inferior footing. At the battle of Platæa, the Spartans were five thousand, each of whom was attended by seven Helots; while the other Lacedæmonians, who were also five thousand, had each only one attendant. But the Spartans, never admitting new associates, had lessened in number, till they formed, even in Sparta itself, only a small part of the population. Their pride and privileges had increased as their number lessened: the ephori, the senate, and all the higher officers, civil and military, were taken from their body, and they were now scarcely ever sent on foreign service, except in some command. These privileges were haughtily exercised, and naturally gave great offence to the excluded classes; and Cinadon, a young man in spirit and abilities inferior to few among the Spartans themselves, conceived the project of exciting a revolt against their sway. To engage others in his views, he was wont to bid them count the Spartans in the full market-place. There might be, besides the king, the ephori, and the senate, about forty. "These," he would say, "are your enemies—but all the rest your friends. Again, in each town and village of Laconia, you will find one enemy and many allies; the first, the Spartan magistrate; the second, the unprivileged Laconians. All the Helots,"

he proceeded, "all the newly admitted citizens, the lower people in the capital, and the inhabitants of the other towns, universally are of our party; for, whenever any mention is made of the Spartans, all these are unable to conceal that they would gladly eat them raw." When such were the feelings on which it rested, the revolution planned by Cinadon would probably have been a bloody one; and thus it is that excessive misgovernment begets a bitterness of feeling in the people, which vents itself at the moment of liberation in cruelty and outrage. Such acts may justly raise abhorrence for the perpetrators, and compassion for the individual victims; but to be influenced by them, so as to think the more favourably of the old government, is a great, though common error; for the violence of the people's resentment is generally a testimony that their oppressions have been intolerable. In the present case the conspiracy was discovered in time; Cinadon was executed with tortures; and the Spartans retained their exclusive privileges.

Soon after this the news arrived that the Persian court refused to ratify the treaty of Dercyllidas, and the united force of the empire would be turned against the Asiatic cities, which were under the protection of Lacedæmon. Agesilaus was sent to command in Asia. He had much of the moderation and wisdom of his father, Archidamus, with far greater activity, enterprise, and military talents. By prudence and liberality he conciliated the cities, and having found them torn with factions, he restored quiet and union; while, by his warlike ability, he not only repelled the apprehended attack, but found himself in a condition to look for further successes. His project was not to conquer, and annex to Lacedæmon any provinces of the Persian empire, but to favour their erection into independent kingdoms, which would form a barrier to the Grecian states against the dangerous neighbourhood of Persia. The success of the scheme would probably have been beneficial to Lacedæmon, to Greece, and to the revolting provinces; which would have been better and more vigorously governed as separate kingdoms than as portions of the vast Persian empire. The design was favoured by the increasing disunion of that monarchy. Many of the satraps had been implicated in the rebellion of Cyrus, and most of those who remained faithful were inclined to

hold their governments as a matter of right, and to renounce their allegiance, if deposed or treated unworthily; while the return of the ten thousand had shown how small a body of Greeks could brave the power of Persia, even in the heart of its dominions. But before his design could be executed, Agesilaus was recalled by troubles in Greece.

We have seen the rise of enmity to Lacedæmon in some of the most powerful Grecian states. The manifestation of that spirit appears to have been hastened by Persian gold in Argos, Thebes, and Corinth; but in Thebes the feeling was strongest, and it was between Thebes and Lacedæmon that war first rose. The Thebans alone could not hope to stand against the enemy they had provoked; but they knew that the Athenians bore impatiently their present depression; and that the same pretence of zeal for Grecian liberty, which had served the Lacedæmonians so well against Athens, might now be no less available to those who withstood the dominion of Lacedæmon. The Thebans asked and obtained the alliance of Athens. Lysander was sent with an army into Bœotia; he professed to vindicate the independence of the towns, and the gates of Orchomenus were opened to receive him: but, soon afterwards, he was killed in battle, and, by the feeble conduct of king Pausanias, who replaced him, the army was obliged to quit Bœotia, without further action, under a dishonourable truce.

Athens led Argos into alliance with Thebes, and Argos Corinth, now democratically governed, and closely connected with Argos. The league was joined by most of the northern states. Instead of allowing the supremacy of any commonwealth, it was agreed that a congress of deputies from each should meet at Corinth, to direct the conduct of the confederacy. The Lacedæmonians now resolved to recall Agesilaus; and, in the mean time, the allies sent an army avowedly against Laconia. "The Lacedæmonian state," said the Corinthian deputy, "resembles a river; which, near its source, is easily forded, but the farther it flows, the more it is swollen with tributary streams. Thus, the Lacedæmonians march from home with their own troops only; but, as they proceed, their army grows formidable with reinforcements from the cities. I hold it, therefore, best to attack them as near as

possible to Lacedæmon." The confederates were met near Corinth by the Lacedæmonians and their allies. Though greatly superior in number, they were disunited and ill-commanded, as often happens in such bodies; the Bœotian generals, in particular, showing a strong inclination to throw upon their associates all the peril of the day. By these errors, and their own superior discipline, the Lacedæmonians were victorious.

Agésilas was enjoying, in Asia, honours and power such as had never fallen to the lot of any Greek. His popularity was universal; his hopes of success and glory brilliant; and nothing could be more mortifying than the summons to quit his present splendid situation, and to live at home under the harsh control of the ephori. When about to depart he assembled the allies, stated the necessities of his country, and assured his audience that he would never forget them, but would return as soon as possible to do his utmost for their welfare. The assembly burst into tears, and unanimously voted powerful succours to accompany Agésilas; who divided all his care between measures for the security of the Asiatic Greeks, and the providing a numerous and well-appointed army to lead into Greece. He crossed the Hellespont, and marching through northern Greece, he entered Bœotia, and met the forces of the hostile league near Coroneia. The numbers were nearly equal; but the Asiatic troops, who formed a large part of the army under Agésilas, were reckoned very inferior to the European. Their behaviour, however, did great credit to Agésilas, who had trained them, and his victory was complete. Little further was attempted before the army went into winter quarters. (B. C. 394.)

It has been mentioned that Conon, after the battle of Ægospotami, fled to Salamis in Cyprus. The Cyprian cities were, for the most part, governed by their several princes or tyrants, under the paramount sovereignty of Persia; but as that feeble government did little to protect its distant dependencies, or to restrain their mutual dissensions, the defence of these cities chiefly rested on the vigour of their several administrations, and the connexions which they formed either with independent powers or with the satraps of the continent. In this view, no alliance could be more desirable than that of the first maritime power of the age; and accordingly Euagoras, the present ruler of Salamis, an able, just,

and popular prince, had anxiously and successfully cultivated the friendship of the Athenians, insomuch that he was, as an honorary distinction, made a citizen of Athens. Conon was honourably received by Euagoras, and soon became his most confidential minister. The eight triremes which he brought with him were a valuable addition to the naval strength of Salamis; and he had military and political ability, and experience in communication with Persian officers, all which made him highly useful to Euagoras. Conon negotiated with Pharnabazus, and won his friendship for the prince of Salamis; who, being countenanced by the satrap, added several towns of the island to his dominion, without offending the court. But when Agésilas was warring in Asia, Conon suggested to Pharnabazus to make a diversion by sea. A Phœnician fleet was at the satrap's orders; it might be joined by that of Euagoras: the Athenian interest was yet considerable in the cities of Asia and the islands, and the personal credit of Conon was high, especially among the seamen. Pharnabazus adopted the suggestion, equipped a powerful fleet, and commanded it in person, leaving, probably, the effective direction to the more skilful Conon. The result was complete defeat to the Lacedæmonians; of which the news was brought to Agésilas shortly before his victory at Coroneia.

The command of the isthmus was an important object both to the Lacedæmonians and their enemies, and, in contending for it, the Corinthian territory necessarily became the habitual seat of war. The Corinthians, of course, were the principal sufferers among the allies; the war became unpopular, and the oligarchical party seemed likely to regain the ascendant. To prevent this, the democratical leaders planned the massacre of their opponents, and the Athenian, Bœotian, and Argian administrations are accused of having been privy to the plot. The time chosen was a religious festival, when, all the people being assembled, the business might be more readily and completely performed; but the part of the whole design most shocking to the Greeks was the profaning with a series of murders a season at which not even the execution of convicted criminals was held allowable. Many were slain before they knew their danger, some while engaged in conversation, some at the theatre, some even sitting as judges. Those who fled to the altars were murdered there with-

out scruple; "so that some pious men," says Xenophon, "even of those who were not stricken, died of horror at seeing such impiety." Those who fell were mostly elders of the principal families, the youth of which had been assembled in another place by Pasimelus, one of their number, who suspected the plot. On hearing the outcry, Pasimelus and his companions immediately seized the Acrocorinthus, or citadel of Corinth; but they were induced to leave it by the fall of a capital from a pillar, which, to their superstitious minds, seemed an omen of ill. They had fled beyond the border, when they were induced to return by the persuasions of their friends, the lamentations of their mothers, and the assurances given on oath by some of the rulers, that they should suffer no harm.

The democratical leaders had adopted a measure unprecedented in Greece: they had united their city with Argos, removed the boundary stones, abolished the Corinthian assemblies, and declared by law solemnly enacted, that the two peoples should henceforth be all Argians. The returned fugitives could not endure the change: they found the power of their opponents completely established by union with the democratical people of Argos, while themselves, who had formerly been important in Corinth, were now of little consideration in the united commonwealths. They had, indeed, the rights of Argian citizens, which they did not desire; but any change was usually unpopular which, increasing the number of citizens in a state, diminished each man's share of the sovereignty; and here, not only was the number of citizens more than doubled, but the name of their country was abolished, and the seat of government removed. On a smaller scale, the same feelings were at work which made the union with England at first unpopular in Scotland; and their violence was exasperated by resentment at the bloody means used to effect the change. The minds of many were thus inflamed, till they thought that life was not worth having on such terms. In the words of Xenophon, "They resolved to make their country Corinth, as it had been from the first; to establish it in independence and good government; to purify it from murderers; and thus to become its saviours, or, if they should fail, at least to meet the most glorious death in pursuit of the greatest blessings." Pasimelus and another nego-

tiated with Praxitas, the Lacedæmonian commander in Sicily, and promised to introduce his troops within the long walls between Corinth and its port, Lechæum. The scheme prospered, and the army of Praxitas being admitted, and joined by the Corinthians hostile to the government, defeated the Corinthian and Argian forces which attacked it. Lechæum was next taken, and a breach was made in the long walls, so as to leave an open passage for Lacedæmonian troops along the isthmus.

During the winter, Pharnabazus had diligently augmented his fleet; and embarking in the spring, with Conon as his vice-admiral, he sailed among the islands of the Ægean. Following Conon's advice, he did not attempt their subjection to Persia, but contented himself with expelling the Lacedæmonian governors, and making them independent. On these terms, all readily received him. The following year he sailed again, and landing in Laconia, ravaged the country, then overran Cythera, and placed there a garrison under an Athenian officer. He next sailed to the Corinthian isthmus, where the congress of the league was assembled, and exhorting the leaders there to carry on the war with vigour, left a sum of money for its support. The satrap was provoked to these exertions by ravages which his territory had sustained from the arms of Lacedæmon; but the expense pressing heavily on his treasury, he gladly adopted the proposal of Conon to relieve him from the burden, and at the same time to strike the most effective blow against his enemy. The Athenian commonwealth, Conon said, would be willing to undertake the support of the war; but, for this, it must be enabled to maintain its navy by the tributes from the islands. If Pharnabazus would allow his fleet to be used in enforcing those tributes, and would assist in rebuilding the long walls and the walls of Peiræus, he might trust the rest to Athens. The satrap consented; he placed his fleet at Conon's disposal, and assisted liberally with money and workmen in rebuilding the walls. The neighbouring democratical states co-operated zealously, particularly the Boeotians, so lately the remorseless enemies of Athens. Thus Conon, after thirteen years' absence, returned to Athens with the present of a fleet and fortifications; with the means, in short, of re-establishing for his country little less than its former importance.

The Spartan government, though victorious by land, carried on the war with little vigour, being cramped by the loss of its foreign revenues, and by the necessity of watching the disaffected Laconians. The war was waged, not by battles, but by incursions and sudden expeditions, and it was with a view to these that Iphicrates, an Athenian officer, raised and disciplined a body of troops, of a kind before unknown in Grecian warfare. Light troops, in Grecian armies, and especially in Peloponnesian, were little valued, and commonly made up of untrained slaves; though it had appeared in the Ætolian expedition of Demosthenes, and on many other occasions, how fatal the want of them might be to the cumbrous, though irresistible phalanx. Athens had good bowmen, and had often profited by them; and Iphicrates raised a body of light troops, regularly armed and disciplined, and trained to act in the Thracian manner, with target and dart, instead of shield and spear, whence they were called *Peltastæ*, or targeteers. To the undisciplined skirmishers of the Peloponnesians, the targeteers were more to be dreaded than the phalanx; for they were equally formidable to them in attack, and far more so in pursuit; and even against the phalanx itself they might be employed with advantage, for, though quite unable to support its charge, they were trained to harass it in flank and rear,—to retreat, when pursued, and instantly to rally, and again attack the pursuers as they retreated. Thus Iphicrates defeated several bodies of heavy-armed foot, belonging to the allies of Lacedæmon, and, at length, a considerable detachment of the Lacedæmonians themselves. The last blow, being received from a kind of troops which they affected to despise, contributed more than any other reverse to humble the pride and damp the hopes of Lacedæmon.

The war went on in Greece with great distress to all the parties, and with no important result; but Thrasybulus, being sent with an Athenian fleet to the coast of Asia, gained some considerable advantages. A revolution had taken place in Rhodes, in favour of democracy; but the refugees, being succoured by a Lacedæmonian fleet under Teutias the brother of Agesilaus, disputed with their adversaries the command of the island. Thrasybulus on his arrival

secured the superiority of the Rhodians in the city, after which he sailed for the Hellespont. He succeeded in restoring democracy and alliance with Athens in the important city of Byzantium, in Mitylene, and the greater part of Lesbos, and in most of the cities on the Asiatic coast, which yet favoured Lacedæmon. The Byzantine people, in their joy at the re-establishment of democracy, made no objection to the restoration of the toll which Athens had formerly imposed on all vessels passing the Bosphorus, on which Byzantium stood. Thrasybulus then proceeded to the collection of tribute from the towns; in the course of which the people of Aspendus were so exasperated by some irregularity of his soldiers, that they attacked his camp by night, and he was killed in his tent. Thus fell a man of tried honesty and patriotism, who had shown uncommon ability in very trying situations, and had been the chief instrument of restoring freedom and happiness to his country. The only cloud that rests upon his memory is an appearance of his having concurred with Theramenes in the accusation of the six generals, if not actively, at least by withholding the testimony which might have saved them: but the evidence we have is not sufficient, to warrant us in decidedly fixing so dark a stain on a character otherwise so pure.

It was in the eighth year of this war, and the nineteenth after the taking of Athens (B. C. 387), that Lacedæmon obtained the intervention of Persia in its behalf, and thereby a peace highly favourable to itself. Antalcidas, who was chosen to command in Asia, and to negotiate with Persia, had before been sent to Tiribazus, the present satrap of Lydia, and had gained his favour; insomuch that he arrested Conon, who had come to him as ambassador from Athens, and it is uncertain whether Conon ever escaped from the confinement into which he had so faithlessly been thrown. Antalcidas was successful in war against the Athenians, and recovered the command of the sea; but he still adhered to his purpose of making peace. The first proposal came in the form of a requisition from Tiribazus, for a congress of ministers from all the states which were willing to receive the terms of peace that the king should dictate. The congress met, and Tiribazus showed the order from the king, which ran thus: "Artaxerxes, the king, holds it just, that all the cities of Asia should be his,

and the islands of Clazomenæ* and Cyprus: that all other Grecian cities, small and great, should be independent, except the islands Lemnos, Imbros, and Scyros, which may be subject to Athens, as of old. Whoever shall not receive these terms, against such I will join in war with those who accept them, by land and sea, with ships and money."

The belligerents consented to the terms proposed. The Thebans, however, required that the oath of their ministers should be taken as the representatives of Bœotia. Agesilaus declared that he would not accept their oath, unless made in strict conformity to the king's order, which required the independence of every city, small and great. The Theban ministers said that they had not authority to make any such concession. Agesilaus bid them go and ask their employers, warning them that if they did not comply, they would be excluded from the peace. They went; but Agesilaus, in his enmity to the Thebans, who had on a former occasion personally insulted him, persuaded the ephori to resort at once to coercion. Preparations were hastily made, but before the army marched, the Theban ministers returning announced the acquiescence of their city: the oath of Thebes was taken for itself alone, and the Bœotian towns became independent.

The Corinthians and Argians were still for preserving their union; which could not be done, so powerful was the adverse party in Corinth, without keeping Argian troops there. This Agesilaus held a breach of the treaty, and he threatened immediate hostility, unless the troops were withdrawn. The demand was reluctantly complied with, and on the departure of the Argians the opposite party became superior: the exiles returned; the principal promoters of the late revolution emigrated, particularly those concerned in the massacre; and Corinth and Argos became, as formerly, distinct republics. Their separation, and the independence of the Bœotian towns, which broke the power of Thebes, were the objects most to be

desired by Lacedæmon. Accordingly, the influence of Lacedæmon was more effectually established by the peace of Antalcidas, than by that which ended the Peloponnesian war; though in the latter it had been completely triumphant, and in the former had suffered not less of evil than it had inflicted. In both, however, that state incurred no slight discredit by giving up the Greeks of Asia to the Persian dominion.

The Lacedæmonians did not delay to abuse their power. Some of their allies, it was said, had wished success to their enemies, and these must be chastised. They first required the demolition of the walls of Mantinea, declaring that they could not trust the fidelity of that people. "For we know," they said, "that when we were at war with Argos, the Mantineians sent corn thither; that they have sometimes pretended a truce, to excuse them from joining the army; that when they have joined it, they have served grudgingly; that they repine at our successes, and rejoice at our defeats." The Lacedæmonians appear to have trusted little to the justice of these pretences, for they added that the thirty years' truce was just expiring. We have seen that the Greeks acknowledged no duties to those who were without the pale of existing covenants; and, accordingly, the expiration of a truce between Argos and Lacedæmon, in the Peloponnesian war, had been held to justify the renewal of hostilities without fresh provocation, after thirty years of peace. But even this would not have prepared us for the present conduct of Lacedæmon, in threatening war to Mantinea after a similar period, not of suspended hostility, as in the case of Argos, but of actual friendship and alliance. It is true, the Lacedæmonians complained that the Mantineians had failed in their duty as allies; but had the vague pretences alleged been sufficient to justify hostility, they would have justified it, independently of the expiration of the truce.

It is probable that one motive of the Lacedæmonians, in thus oppressing Mantinea, was their dislike of her democratical government, which they had unwillingly permitted, while they feared to drive her from their own alliance into that of their enemies. Agesilaus, disapproving the expedition, excused himself from leading, by alleging some obligation of his father to the Mantineians, Agisipolis, the other king,

* Thus the passage stands in Xenophon, but its correctness has been disputed, on the ground that Clazomenæ was a city on the continent of Asia. It seems, however, that although the city was originally built there, the inhabitants afterwards moved over to the island, from fear of the Persians. At a later period than that now treated of, Alexander the Macedonian united the island to the mainland by a mole, which was still visible when Chandler visited the place. See *Schneider's note on Xenophon, Hellen.* V. i. 31.

sat down before the city: he flooded it by damming the river which ran through it, and the fortifications being built with unburnt bricks soon began to give way. The Mantineians now capitulated, and the only terms allowed them were, that they should abandon their city, and settle themselves in villages. The popular leaders, fearing the vengeance of their opponents, obtained from Agesipolis a safe conduct to depart. The street was lined with Lacedæmonian troops, while sixty of the most obnoxious passed out; "and though hating them," says Xenophon, "they were kept from harming them more easily than the best of the Mantineians," meaning the oligarchical leaders; "a great instance of subordination." This passage exemplifies the bitterness of Grecian party and national enmity, while its language shows the oligarchical bias of the historian. He proceeds: "After this the Mantineians were distributed into four villages, as they had anciently lived. At first they disliked it, as they had new houses to build; but the men of property soon became pleased with the change, as they lived near their estates, and directed the government aristocratically without being thwarted by troublesome demagogues. The Lacedæmonians sent an officer to each village, and the people served in their armies much more readily than under the democracy." That is, Lacedæmon governed by means of the nobility, who, depending on its support, were zealous in its service; while the disunited and enfeebled people, as has happened in all ages, submitted, without remonstrance, to waste their blood in quarrels wherein they had no interest.

Three years followed of unusual tranquillity; and when it was interrupted, the alarm came from a new quarter. Olynthus, the most powerful among the Chalcidian cities of Thrace, had adopted the unusual policy of associating, in all the civil and political rights of its people, the citizens of some small neighbouring towns. This was very adverse to the common temper of the Greeks, who generally guarded their separate governments with so much jealousy as not even to suffer intermarriage. The system prospered, and some of the larger towns joined the association. Among these was Pella, the largest town of Macedonia. The rising power had attracted the attention of Athens and Thebes as a valuable ally;

and overtures of friendship had already taken place between those states and Olynthus.

The Olynthians had invited the neighbouring towns of Apollonia and Acanthus to join their confederacy, and had added a threat of war in case of refusal. The rulers of those states sent ambassadors to Lacedæmon, who represented this Olynthian system of association as an ill boding novelty. They declared that negotiation was already commenced with Athens and Thebes, and advised the Lacedæmonians to take care lest they should no longer find that part of Greece easy to manage. "You are very anxious," the ambassadors continued, "to prevent the union of Bœotia: how, then, can you suffer to rise a greater power than Bœotia, and that not by land only, but also by sea." They went on to state the great resources now possessed by the Olynthians, and the far greater which they expected to attain; and finished by saying, that many of the towns were yet unwilling associates, and the confederacy might now be easily dissolved; but if the union were once confirmed by intermarriages and intermixture of possessions, it would be very difficult to break it. Their arguments prevailed. Eudamidas was sent with two thousand Laconians, while his brother Phœbidas remained to collect the troops which were to follow. Though Eudamidas could not face the enemy in the field, his small force and the fame of Lacedæmon preserved several towns which were on the point of joining Olynthus; and the important city of Potidæa, the key of the peninsula of Pallene, opened its gates to him, though it was already a member of the Olynthian league.

Phœbidas arrived at Thebes on his way to join his brother. Parties there were so nearly balanced, that Ismenias and Leontiades, contending chiefs, were together in the office of polemarch, the chief magistracy. Ismenias, a warm opposer of Lacedæmon, avoided Phœbidas; but Leontiades courted him. The party of Ismenias prevailed so far as to carry a vote, which forbade that any Theban should join the army under Phœbidas; on which Leontiades offered to introduce a Lacedæmonian garrison into the citadel, whereby his party would be enabled to overbear their opponents, and Phœbidas might carry with him a powerful Theban force into Thrace.

Phœbidas caught at the treacherous proposal; the troops were introduced, and Leontiades going to the council, declared that the Lacedæmonians were in possession of the citadel, but that there was no need for alarm, for they disavowed all hostility. Being authorized, however, as polemarch, to apprehend all persons suspected of treason, he commanded the guards to seize Ismenias. Many of the friends of Leontiades were present, and forewarned: the opposite party were completely surprised. Some fled immediately, some went home to prepare for departure; but, as soon as it was known that Ismenias was lodged in the Cadmeia (the citadel of Thebes) four hundred persons fled to Athens. A new polemarch was chosen from the party of Leontiades, and he himself then hastened to Lacedæmon. (B. C. 382.)

On most occasions, the conduct of Agesilaus had been just and liberal beyond the wont of Lacedæmon; but we have once already seen him hurried into precipitate violence by his hatred of the then ruling Thebans; and the same feeling now induced him to exert his influence in favour of the perfidious measure which had effected their downfall. The way had been smoothed by him, when Leontiades addressed the Lacedæmonian assembly. He enlarged on the enmity which the democratical Thebans had often shewn to Lacedæmon, and especially in their recent alliance with Olynthus; and mentioned the constant anxiety of Lacedæmon to prevent the subjection of Bœotia to Thebes. "Of this," he said, "there is now no danger; you need not fear the Thebans; for, if you but provide for our security as we shall for your interests, a simple order will ensure obedience to all your wishes." The assembly resolved to keep the citadel, and to bring to trial not Phœbidas but Ismenias. Three judges were sent from Lacedæmon, and one from each of the allies, and the late chief magistrate of an independent state was brought to answer before a foreign tribunal for his conduct in that magistracy. Ismenias was accused of seeking foreign connexions; of pledging himself in hospitality to the Persian king for the injury of Greece; of having partaken of the money sent from the king; and of having been a principal author of the late troubles. The chief part of the charges, it is to be observed, referred not to any separate machina-

tions of Ismenias, but to the public conduct of the party to which he belonged; and that not at any recent period, but during the troubles which had been concluded by a peace solemnly made and sworn by Lacedæmon with that very party as the government of Thebes. Such, however, as the charges were, Ismenias refuted them; but being, nevertheless, unable, says Xenophon, to persuade his judges that he had not entertained great and evil projects, he was condemned and executed. His fate, it is plain, had been determined before the trial began. This mockery of justice, more loathsome than the most barefaced murder, is an abomination peculiar in Greece to Lacedæmon, and of which we have already seen an instance in the judicial massacre of the unfortunate Plataeans.

Teleutias, the brother of Agesilaus, an able and highly popular commander, was now sent with a powerful army against Olynthus. But that state, by the liberality of its policy, and the benefits resulting to those who united themselves with it on the terms it offered, had acquired, without war or violence, a power which made it no easy conquest. After some trifling successes, the army of Teleutias was completely defeated and the leader slain. A fresh army was sent under king Agesipolis, a young man of promise, who carried on the war with advantage till he died by sudden illness. The Olynthians, however, had probably depended on the support of Thebes and Athens, of which the former, instead of aiding them, was now at the command of their opponents. The Lacedæmonians prevailed against them; they were blockaded and pressed by famine; and they submitted to become dependent allies of Lacedæmon, and to follow in arms whithersoever the Lacedæmonians should lead. Thus fell a power which appears, as far as very imperfect knowledge can enable us to judge, to have been more likely than any that had yet arisen to promote the peace and general liberty of Greece.

Meanwhile, Agesilaus was employed near home. After establishing democracy, the people of Phlius had continued allies of Lacedæmon; which had, with unusual moderation, refrained from interfering to change the government, and only exerted its authority to secure fair treatment for the depressed party. At length it was provoked to arms by the continued injustice of the Phliasian

government towards those who were held more particularly the friends of Lacedæmon. Agesilaus besieged the city, and, after a most resolute defence, reduced it to extremity ; and his moderation was shown in the terms which he granted, by which the settlement of its affairs was referred to one hundred Phliasian commissioners, chosen fifty from each party.

The Lacedæmonians were now at their highest pitch of power ; Bœotia was completely theirs, Corinth firm in their friendship, Argos brought low, and Athens without allies ; when a change, the beginning of a train of misfortunes, which broke their power for ever, was brought about by means apparently so trifling, that Xenophon, an exile under the patronage of Lacedæmon, and particularly of Agesilaus, can only account for it by ascribing it to the divine anger at the iniquity of his patrons, who had seized the citadel of Thebes. This perfidy and violence indeed well deserved punishment, for it was a flagrant breach of that treaty, establishing the independence of all Grecian towns, to which they had solemnly sworn, and of which they had so rigorously enforced the strict construction on all others. In the winter of the year (B. C. 379), seven Theban exiles, resident in Athens, conspired with the secretary of the polemarchs Archias and Philippus, to overthrow the government of Thebes. They went secretly thither, and being introduced by the treacherous secretary to the presence of his masters, assassinated first the polemarchs, and afterwards Leontiades. Some of them then went to the state prison, and, obtaining admission by pretending an order from the polemarch, released the prisoners, and procured them arms from a neighbouring temple. Then, fully trusting in the general hatred to the existing government, they proclaimed that the tyrants were no more, and invited the citizens to assemble in arms. When day broke, and what had passed was certainly known, the citizens joined them horse and foot.

In the course of the day the refugees arrived from Athens, and a body of Athenians. It was resolved to assail the Cadmeia ; but the Lacedæmonian garrison, being weak, surrendered the fortress on condition that they might depart with their arms. The Thebans gladly consented, and the Lacedæmonians were allowed to depart ; but all

who were seen among them of the oligarchical Thebans were seized and put to death, excepting some who were saved by the humanity of the Athenian auxiliaries. Not content with taking vengeance on the guilty, the popular fury extended itself to the massacre of the innocent, and the children of those who had been executed suffered death. These crimes were probably not designed by the leaders, but produced by the violent passions commonly arising in Grecian seditions, and provoked in the present case by more than ordinary guilt. But this shocking cruelty, and the treachery and assassination with which the enterprise was begun, form dark blots on a revolution otherwise to be admired for the justice of its cause, the boldness of its conception, and the prudence as well as the daring vigour which marked both the plan and the execution.

The Lacedæmonians put to death the late governor of the Cadmeia, who had thus easily surrendered a possession so important, and so disreputably acquired ; and they sent an army against Thebes. Agesilaus had probably repented of countenancing the treachery of Phœbidas ; but it is plain that he was now unwilling to be connected with the prosecution of a business, which had begun in iniquity, had fallen into increased discredit through the tyrannical conduct of the Theban rulers established by Lacedæmon, and had ended with complete ill success. He excused himself from the command, on account of his age, which had reached the term after which, by the laws of Sparta, no man was obliged to go on foreign service ; and the army was led by his colleague, Cleombrotus, the brother of Agesipolis. The object, however, of the expedition appears to have been rather to protect the Lacedæmonian party in the Bœotian towns, than to recover dominion in Thebes. The army carefully avoided all injury to the Theban territory, so that men doubted whether it was to be war or peace ; and finally it withdrew, leaving Sphodrias to command in Thespiæ, with a third part of its force. The display of the Lacedæmonian power so near them had produced in the Athenian people a terror, which showed itself in unjust severities towards those who had advised assisting in the deliverance of Thebes.

The Thebans, if left to struggle alone with Lacedæmon, could scarcely hope for any peace, but such as would leave

their independence very precarious, and probably bring ruin to the authors of the late revolution. But they had now as leaders men of superior talent, of whom Pelopidas and Epaminondas were the chief. Pelopidas, active, prompt, and daring, with great dexterity and ready invention, had been an exile, and one of the seven conspirators who began the revolution. Epaminondas, his most intimate friend, was a man of consummate ability, but of retired and studious habits and limited fortune: he had hitherto taken little part in public affairs, and had remained undisturbed in Thebes under the usurping government; and even from this time he appears for a considerable interval to have assisted the administration chiefly with his advice. The views of these men were directed to the recovery of Theban supremacy in Bœotia; and accordingly Pelopidas and two of his associates were made chief magistrates, with the title, not of polemarch, or military commander, but of Bœotarch, or commander of the Bœotians. As this made peace more distant, it was necessary to provide the better for war; and Athens was again engaged on the Theban side, through an intrigue of Pelopidas, who found means to induce the Lacedæmonian general, Sphodrias, to commit an aggression, so absurd in its conduct, as well as unjust and impolitic in its professed design, that it was universally ascribed to bribery. He entered Attica by night, ostensibly to surprise Peiræus. At Thria, day broke on him, and he returned; but, instead of attempting to disguise the hostile intention, he plundered houses and drove off cattle. The Athenian government complained to Lacedæmon, and Sphodrias was brought to trial. But Cleonymus, his son, was the intimate friend of Archidamus; the son of Agesilaus, who fully shared in his distress; and Agesilaus suffered his public integrity to be so far overborne by his private affections, that he used his influence in procuring the acquittal of Sphodrias. The consequence was the violent resentment of the Athenians, who immediately joined heart and hand with Thebes.

Agesilaus now took the command. In two successive years he entered Bœotia, with a force superior to the united strength of Thebes and Athens, and Thebes was greatly distressed by the ravaging of its territory. An army was kept continually at Thespiæ, to

support the Lacedæmonian party in the Bœotian towns; all of which were now governed by narrow oligarchies, that could not maintain themselves unassisted; while the favourers of democracy, including apparently in many towns a full half of the citizens, took refuge in Thebes. Thus completely changed was the state of parties in Bœotia, since the series of actions which closed with the Peloponnesian war; when Thebes was oligarchically governed, when Athens was the enemy and Lacedæmon the protectress of its supremacy, and when it was the democratical party which supported the separate independence of the towns. One incident is worth recording in the second campaign of Agesilaus. In Thespiæ it would appear that the emigration had been less than in many places, and that though no acknowledged enemy of Lacedæmon could remain there, there was a party ranged against those who claimed to be pre-eminently its friends. The latter modestly requested that Agesilaus would allow them to put their less zealous fellow-citizens to death; but he refused, and mediated between the factions so successfully, that he effected at least a temporary reconciliation, and, binding them to each other by oaths of concord, left Thespiæ in peace.

Next year, Agesilaus being disabled by sickness, the young king Cleombrotus led the army; but the intended invasion was foiled, the mountain passes being occupied by the Athenians and Thebans. Disgusted at the protraction of the war, the allies of Lacedæmon proposed equipping a fleet. By this the supplies of foreign corn, which chiefly supported Athens, might be cut off; and the army might be transported at pleasure into Bœotia, without depending on the freedom of the passes. In pursuance of the first object, a fleet was posted to intercept the Athenian corn ships; but this was met and defeated near the isle of Naxos by the Athenian Chabrias, the completest officer of the age. Another fleet was prepared to transport an army across the Corinthian gulf into Bœotia; but, at the request of the Thebans, Timotheus, the son of Conon, coasted Peloponnesus, and the intended expedition was prevented, the Peloponnesians being detained to protect their homes against the threatened attack. The Thebans thus had leisure to proceed against the Bœotian towns, and aided by the popular party in each, they

established every where democratical government, and Theban supremacy. Timotheus proceeded to Corcyra, and with the aid of a friendly party brought it to submission. He permitted none of the usual severities towards the conquered party: no selling into slavery—no banishment; he made no change in the constitution of the state; but exerted all his eloquence and prudence in composing differences and reconciling quarrels; and his reward was a general good will, in that part of Greece, to himself and his country. After this he defeated a Lacedæmonian fleet sent against him, and gained the command of the sea. Nevertheless, the Thebans invading Phocis, a Lacedæmonian army crossed the gulf, and defended that country.

The Lacedæmonians were now losing ground, when an overture of peace was made from Athens. The enmity of Thebes and Athens was old, their friendship recent; and though the Athenians had helped in securing Thebes from subjugation, they were far from wishing success to its rising ambition. They were also not unreasonably dissatisfied with a war in which the exertions and sacrifices had been chiefly theirs, and the profit that of Thebes. They were burdened with taxes, infested with Æginetan cruisers, and harassed with watchfulness; while the Thebans, whether unable or unwilling, contributed nothing to the support of that fleet, which had saved them from invasion,—perhaps from ruin—and enabled them to gain the mastery of Bœotia. Influenced by these considerations, they offered peace to Lacedæmon: it was accepted, and Timotheus was ordered home with his victorious fleet.

Timotheus, in returning, landed some Zacynthian exiles on their island, of which the Zacynthian rulers complained to Lacedæmon, as a gross injury. The Athenians evidently were unconscious of having done any thing to provoke a renewal of war, for they had laid up their fleet, and dismissed the crews, when it was voted by the Lacedæmonians that the Athenians had acted wrongfully, and redress should be sought by arms. At best this resolution was unjustifiably intemperate; but the time and circumstances lay it open to a worse suspicion. The pressure was removed from Lacedæmon; the fleet, which had commanded its coasts, was broken up, and probably could not be quickly reassembled on the scene of action. The

trifling business of Zacynthus furnished a pretence for annulling a treaty, of which the benefit had already been received; and the laying up of the ships, while it proved the confidence of good faith on the part of the Athenian administration, gave to the Lacedæmonians a fair chance of reducing Corcyra, before it could be succoured.

The Lacedæmonians sent Mnasippus against Corcyra, with a powerful armament, much of which was composed of mercenaries. The island had been little troubled with internal dissensions since those seditions which had given it so bad a notoriety in the Peloponnesian war; and being commonly protected from hostile ravage by its situation and naval power, it was now remarkable for its high cultivation, and the splendour of its country houses. All this became the prey of the invader, and so rich was the plunder that even the common soldiers learned to be nice, and refused to drink any but the choicest wines. The Corcyræans were blockaded and pressed by hunger, before their complaint reached Athens, and when it was resolved to assist them, there were neither ships nor seamen ready. An Athenian general, however, and a small body of troops, were sent over land to assist in the defence; and Iphicrates being appointed to collect and command a fleet, hastened the levy by all the means in his power. As soon as it was completed he set out, and making his progress principally by rowing, with little use of sails, he won great credit by the manner in which he contrived at once to perform the voyage in not more than the ordinary time, and to exercise his newly-gathered seamen, so that they might, immediately on their arrival, be fit to do battle with the practised crews of the Peloponnesians. On reaching Cephallenia, he found that Corcyra was already safe. The sufferings of the besieged had become so severe, that when Mnasippus had proclaimed that any persons coming as deserters from the town should be sold for slaves, they still deserted. He scourged them and sent them back; and admission being denied to such as were bondmen, many died of hunger under the walls. Encouraged by the distress of his enemies, the Spartan commander, thinking victory certain, had resolved to make it cheap. For this, he dismissed some of his mercenaries, and withheld from others their pay, when due. The army naturally became dis-

contented and disorderly, and an opportunity was soon given to the besieged, which was ably improved, and led to the defeat and death of Mnasippus. The besieging army, discouraged by this discomfiture, and fearful of the speedy arrival of Iphicrates, was hastily re-embarked, leaving behind it much of its spoil, and many wounded soldiers.

Iphicrates, now master of the sea, proposed to ravage the Laconian coast, and to reduce those western cities, which still were hostile to Athens; but for this a fresh supply of money was needed. When first appointed he had requested to have as colleagues Callistratus, the most popular speaker, and Chabrias, the best general of the time, both hitherto his opponents. His reasons may not improbably be conjectured. He was going on a difficult and important service, and as the expense of the fleet would be heavy, and the treasury was low, it was likely that the people would be severe in exacting the greatest results from so costly an exertion. The presence of intelligent and unfriendly witnesses would be the severest trial of his conduct, but their approval would be its most triumphant vindication; and he probably relied upon his own ability and energy to merit their good report, and upon their candour not to withhold it, if deserved. He might hope to conciliate his associates, by the trust he had placed in their honour, and by his behaviour to them, while serving with him. Approving his conduct, they would be jointly responsible for its success; and thus he would be supported by the eloquence of Callistratus, and the high fame of Chabrias. In every respect the plan succeeded. Callistratus became his friend, and when money was wanted, offered to be messenger to the people, and either to procure a supply, or set on foot a negotiation for peace. Iphicrates approved, and Callistratus went to Athens.

The Athenians had been alarmed by the growing ambition of Thebes, and offended by the attack on their ancient friends the Phocians; and they were now more deeply disgusted by a recent act of tyranny. The Plataeans and Thespians had shown unwillingness to admit the dominion of Thebes in the full extent to which it was claimed; and for this their towns were demolished and their whole people expelled. They fled to Athens, and were there received with ready sympathy. It was not forgotten that their cities had been true to

Greece when all the rest of Bœotia had strengthened the hands of the Persians; nor that the Plataeans had been long the most devoted allies of Athens, and at one time almost a part of its people. These recollections heightened the pity which was naturally felt for the homeless fugitives; while indignation rose higher at the thought that the Thebans themselves, when lately victims of oppression, had mainly owed to Athens their deliverance, and their elevation to the power which they now abused in contempt of Athens, and to the injury of its friends. Any further support of Theban ambition appeared both discreditable and perilous; and on the arrival of Callistratus, in spite of just resentment against Lacedæmon and the prospect of brilliant success, it was resolved to make peace. The Thebans were first invited to concur, and then an embassy was sent to Sparta.

The Lacedæmonians were too severely pressed by Iphicrates not to wish for peace on any moderate terms; they, therefore, gladly called an assembly, and summoned the deputies of their allies to hear the proposals. One Athenian ambassador spoke to this effect:—"You always declare, O Lacedæmonians, that the cities shall be independent; and yet yourselves are the greatest hinderers of independence. For you bind your allies to follow whithersoever you shall lead, and you engage in wars without consulting them; so that your confederates, who are said to be independent, are often compelled to war against their best friends. Again, you do a thing most inconsistent with independence, establishing in different cities arbitrary ruling bodies of thirty or of ten; and your care is, not that these shall govern righteously, but that they shall always have a force at hand to keep down the citizens by violence; so that you seem to delight in tyrannies rather than free governments. When the king commanded that the cities should be independent," (such was the common language in speaking of the peace of Antalcidas,) "you declared that the Thebans would violate the order, if they did not suffer every city to govern itself by what laws it would: yet when you seized the Cadmeia, you suffered not the Thebans themselves to be self-governed. But no friendship can exist with those, who expect fair dealing from others, while themselves are catching at every unfair advantage." Callistratus followed in a

more conciliatory tone. The Lacedæmonians agreed to peace on the terms proposed; their governors were to be withdrawn from the cities, and every city to be independent; armies were to be disbanded, fleets laid up; if any city violated the treaty, it should be lawful for every other at its pleasure to assist the injured, but none should be compelled to join in hostility.

The terms of the treaty were in perfect unison with the wishes of Athens, but adverse to those both of Thebes and Lacedæmon, neither of which was willing to give up its dominion. But the Lacedæmonians trusted to ancient habits of authority and obedience to retain their allies without the forbidden coercion; whereas the Thebans would inevitably lose the command of Bœotia, which was recently gained, and could only be supported by force. The latter, therefore, complying, would be enfeebled, and might fall whenever Lacedæmon should find a pretext for hostility, or feel herself strong enough to act without one: refusing, they would be abandoned by Athens, without whose support, it was believed, they could not stand even now; and then the Lacedæmonians, having crushed their rivals by means of an illusory resignation of dominion, might resume their empire, and re-establish it on a firmer basis. The same considerations which prompted the apparent moderation of Lacedæmon were to the Thebans reasons for embarrassment and alarm. To reject a treaty so equitable in its provisions would be matter of offence and suspicion to Greece, and they would have no allies, while Lacedæmon would be backed by its Peloponnesian confederates. Acquiescence would have been wise and patriotic, could they have trusted Lacedæmon; but believing, as they well might, that its real intention was to exact a permanent and substantial, in return for a temporary and nominal sacrifice, the command of the force of Bœotia seemed necessary not only to greatness, but to independence and security. The Theban leaders were able and daring; they boldly stood the hazard; and grounds were found to vindicate them from the charge of ambitiously and obstinately rejecting a safe and honourable peace.

The Athenians and their allies by their respective ministers had severally sworn the observance of the treaty: the Lacedæmonian representatives took the oath for themselves and their allies.

The Theban ministers had sworn on the part of Thebes, but they now required that the Bœotian name should be substituted. The demand was inconsistent with the spirit of the treaty, yet not more so than the privilege just assumed by Lacedæmon. It was refused, and the Thebans renounced the treaty. The Athenians scrupulously did their part, withdrawing their garrisons and recalling their victorious fleet: the Lacedæmonians withdrew their governors and garrisons, but instead of recalling their army from Phocis, they ordered Cleombrotus to lead it against the Thebans; unless they allowed the Bœotian cities to be independent. Here then was an open violation of the treaty, according to which the army ought to have been dissolved, and a fresh one gathered, if necessary, from those cities only voluntarily joined in the war. This incident went far to justify the conduct of the Thebans; for it showed that the specious moderation of Lacedæmon had been only a decoy; and that now, as after the peace of Antalcidas, that power would strictly enforce on all others their engagements, but would observe its own no further than suited its convenience.

Cleombrotus entered Bœotia. The Theban leaders, knowing that decisive action only would secure the fidelity of the towns, though inferior in force, advanced to meet him. Under the present generals their military system had been much improved; their heavy-armed foot and their cavalry had always been among the best in Greece; but now the foot were scarcely inferior to the Lacedæmonians themselves, while the horse were very far superior, the Lacedæmonian cavalry being of little reputation. But their greatest advantage was the genius of Epaminondas their commander, and the skill and daring activity of his associate Pelopidas. To increase their confidence the generals used every resource of Grecian superstition. An oracle was circulated, importing that Lacedæmon was to be worsted near the tomb of the virgins, who were said to have slain themselves after being violated by some Lacedæmonians. This tomb was near to Leuctra, where the battle took place; and before engaging, it was dressed and ornamented by the Thebans. News was brought from the city that all the temples had opened spontaneously, and that the sacred arms had vanished from the shrine of the Theban hero Hercules, which plainly

showed that he was going to the war. These marvels were not lost upon the many, though there wanted not those who doubted their genuineness: and they effectually braced up the spirit of the soldiery to encounter the old fame and often tried prowess of their adversaries.

The original and masterly plan of action devised by Epaminondas on this occasion was long remembered as an important improvement in the Grecian science of war; and the historian might be allowed to dwell on it with unmixed satisfaction, had it never been employed except for the only lawful purpose of hostilities—self-defence. The entire fronts of contending armies had commonly been brought into action at once, and the contest decided in every part of the line by superior numbers or valour. The Thebans had sometimes charged in column, when unable otherwise to break the opposing phalanx: but it was reserved for Epaminondas to choose from the first one point on which to make the decisive attack; and while he withheld the weaker parts of his line from immediately closing, to unite in the attacking column such a body, that though weaker in numbers on the whole, he might be greatly stronger on the decisive point. The battle was begun on both sides by the horse, and that of the Lacedæmonians was quickly driven back on the infantry. Their phalanx was formed twelve deep; and Epaminondas directed his Theban column fifty deep against the right wing, where stood the king with most of the Spartans, considering that, if this were routed, the rest would be an easy conquest. The chosen band around Cleombrotus awhile maintained the unequal struggle; but the pressure was too great; the king was slain, with many of the noblest Spartans; the wing gave way, the rest of the line speedily followed; and the Lacedæmonians with astonishment saw themselves overcome in a pitched battle by inferior numbers, a thing unknown for ages. (B. C. 371.)

When the news of the defeat at Leuctra was brought to Sparta, the people were celebrating one of their chief religious festivals. The ephori did not allow a moment's interruption of the solemnity; they only sent to the kindred of the slain information of their fate, and commanded the women to abstain from clamour and tears. Such power was yet in the institutions of Lycurgus, that the interdiction was universally obeyed; all

bore their losses in silence; and on the following day the friends of the dead went about with cheerful countenances, while those of the survivors kept their houses, or, if obliged to show themselves, appeared with every mark of sorrow and shame. Prompt action, however, was necessary to prevent a greater calamity, the loss of the defeated army, which was now besieged in its camp. To bring it off, the whole remaining strength of the commonwealth was ordered to march; and Agesilaus being still disabled, his son Archidamus was appointed to the command. But relief had come to the blockaded Lacedæmonians from an unexpected quarter.

Jason, of Phæræ in Thessaly, a man of uncommon powers both of body and mind, an able general and a skilful politician, had not only become the lord of his own city, but had brought most of Thessaly into subordinate alliance. At the head of the opposing cities was Pharsalus, which after violent struggles of faction had been tranquillised by an extraordinary agreement. Polydamas was a Pharsalian eminent by birth and riches, and by splendid hospitality, for which the Thessalians were noted; but most of all by spotless integrity, in which all parties placed such confidence, that they at length agreed for their mutual security to entrust him with the command of their citadel, and the exclusive management of their public revenues. He had been raised to this station without intrigue or violence by the free choice of his fellow-citizens; but the discretionary nature of his authority, and the absence of all provisions for examination and control, while they would have given to a dishonest man unbounded means of abuse, appeared to open a wide field to calumny against the most upright, and to withhold the means of vindication. Nevertheless, Polydamas executed his difficult office without incurring a breath of suspicion, and apparently to the satisfaction of all. He could not, however, equally succeed in opposing the power of Jason, which became daily more an overmatch for the Pharsalians and their allies. But Jason, though extravagantly ambitious, was politic and liberal: he respected the character of Polydamas, and wished his friendship; and he was wise enough to prefer the voluntary adherence of Pharsalus to its compelled subjection. He invited Polydamas to a conference, and urging the value of his own alliance

and the danger of his enmity, prevailed on him to advise the Pharsalians to compliance. The states of Thessaly had always acknowledged some common bonds of union, and had occasionally appointed a captain-general of the whole nation with the title of Tagus. This office was the object of Jason's ambition, and with the support of the states connected with Pharsalus, he readily obtained it. He had now at his command eight thousand horse, twenty thousand heavy-armed foot, and targeteers innumerable. He had extensive coasts, large revenues, and forests of excellent ship-timber, and he looked to dominion by sea as well as by land. With these resources he aspired to the supremacy of Greece, and further than that, to the conquest of Persia. Wild as these projects seem, he had means and abilities which might probably have realised them could his life have been sufficiently prolonged; but they were too vast for the ordinary duration of a single human life, and Jason was cut off in his prime, when hardly entered on his career.

At the battle of Leuctra, Jason was already Tagus; he was allied with Thebes, and the Thebans invited him to come and aid in the overthrow of Lacedæmon. He came; but, considering that the ruin of its enemy would make Thebes mightier than suited his designs, he bent his mind to save the remnant of the beaten army. He counselled peace, and obtained a truce, under favour of which the Lacedæmonians decamped by night. Arriving in Megaris, they met the army under Archidamus, and all now dispersed to their homes.

Jason, returning into Thessaly, levied from all his cities oxen, sheep, goats, and swine, to sacrifice at the approaching Pythian festival. Though the rate of the impost was very moderate, it brought together a thousand oxen, and of the smaller cattle more than ten thousand. He also commanded the Thessalians to assemble in arms at the time of the solemnity, with the purpose, as was universally believed, of assuming the presidency to himself. But before the period came, he was assassinated by seven young men, who approached him, under pretence of having a difference to settle, while he was sitting after a review of the Phææan cavalry to listen to such as needed his advice, authority, or assistance.

The issue of the great contest still

was doubtful. The success of Thebes had been glorious, but the Peloponnesians were bound by it more firmly to Lacedæmon, whose power secured to them collectively a pre-eminence which would be lost by the ascendancy of a state beyond the peninsula. The Athenians, jealous alike of both the rivals, wished to balance them; and their aim was, before either people had the game in its own hands, to make peace on the principle of independence to the cities, which seemed to give the best chance of lasting quiet, and least to favour the ambition of the dreaded powers. Accordingly they invited to Athens a congress of all who wished for peace on the terms established by the treaty of Antalcidas. The congress met, attended by ministers from nearly every state of Greece; the Athenians proposed, and the meeting approved an oath to this effect: "I will abide by the terms of peace which the king sent, and by the decrees of the Athenians and their allies; and if any state having sworn this oath shall be attacked, I will succour it with all my strength." The oath was taken by all, except the Eleians, who objected to the independence of some subjects of their own.

The Mantineian people, now considering Lacedæmon as barred from interfering, decreed that they would re-assemble in one city, which should forthwith be fortified. This was offensive to Lacedæmon; but to hinder it forcibly, would be so gross a breach of the recent treaty that all Greece could not fail to resent it. Agesilaus had great personal and family interest in Mantinea, and he was sent to negotiate; but the leaders, fearing his popularity, refused to call an assembly, and he went away in anger, yet holding the appeal to arms impossible under the treaty.

The success of the popular party in Mantinea animated their friends in Tegea, and they conceived the project of uniting Arcadia under a general assembly from all the states, to whose decisions each particular city should be subject. The plan was likely to be widely beneficial; but it was dangerous to the aristocratical rulers of Tegea, whose power could hardly stand when entirely divorced from all connexion with Lacedæmon, and joined in a league, of which the Mantineian democracy would be a leading member. By their influence the measure was thrown out in the assembly; and the proposers

attempted to carry it by arms. But the sway of the present governors had been liberal and equitable; their adherents were not less numerous than their opponents, and they prevailed in the battle. Stasippus, their chief, a man of unusual humanity, forbade pursuit. The fugitives collected at the gate towards Mantinea, and entering into conference with the victors, prolonged it till the arrival of the Mantineian forces, which they had sent for before the contest began. They then opened the gate, and attacked their imprudently merciful conquerors. Stasippus and some of his friends escaped by the opposite gate, and, being closely pursued, took refuge in a temple; but their enemies, uncovering the roof, and pelting them with the tiles, compelled them to surrender. They were tried by a court of democratical Tegeans and Mantineians, and were condemned, and executed by the enemies whom they had spared. About 800 Tegeans then fled to Lacedæmon.

The Mantineians now had clearly put themselves in the wrong; and the Lacedæmonians sent an army under Agesilaus to punish them, and to restore, if possible, the Tegean exiles. Meantime, the project of union had become extensively popular in Arcadia, and it had been agreed, almost universally, that a new city should be founded, with the name of Megalopolis, (Great City,) to be the common capital and place of assembly of the Arcadian people. The force of nearly every state was collected to oppose Agesilaus; but the Arcadians did not hazard a battle; and the campaign was closed without any important result, except that the spirit of the Lacedæmonian people was somewhat raised by the display of its superiority in the field.

The victory at Leuctra had been very gratifying to the pride of the Bœotians; and the consequence was a willing submission throughout the province to the supremacy of Thebes, a general attachment to the successful leaders, and a warm concurrence in their projects of ambition. Those able statesmen had so skilfully improved their rising influence and reputation, that they had found the means of inducing the Phocians also to submit to their dominion; without the use of any violence contrary to the treaty. By the war of Lacedæmon and Arcadia, they had a pretext for hostility against the former, and an opportunity

of procuring powerful allies within the peninsula; so that no opportunity, as it seemed, could be fitter to strike a blow for empire. It is true that, in strict justice, they had no sufficient ground for hostility, since the Mantineians and not the Lacedæmonians had been the aggressors; but, in the general imperfection of information, the violence of party spirit, and the prevailing laxity of political principle, it was not difficult to make out a case against Lacedæmon which would satisfy great part of Greece; and accordingly they were reinforced from many neighbouring states. In the middle of winter their army, marching under the command of Epaminondas, passed through the Corinthian territory into Peloponnesus. The Corinthians had professed and kept a strict neutrality; yet, because they would not take arms against Lacedæmon, their ancient ally, to support the violence of Mantinea against Tegea, their lands were ravaged, their cattle driven off, and their houses burnt. The Bœotian army joined the Arcadians, Argians, and Eleians near Mantinea; the Lacedæmonians had quitted Arcadia; and Epaminondas was advised by his Peloponnesian allies to lead his army into Laconia. In spite of opposition, he passed the rugged frontier mountains, and advanced along the left bank of the Eurotas, plundering and burning. He found the bridge which led to Sparta too strongly guarded for him to attempt the passage; but he proceeded farther down the river, and crossing it at Amyclæ, bent his march towards the unvalled capital.

The confederate force was far greater than any that Lacedæmon could assemble, had all her subjects been zealous in her cause. But the greater part of the Laconians regarded as friends the enemies of the Spartans; many had already joined the invaders, and in the rest no confidence could be placed. The Spartans only could be safely trusted, and their small number seemed lost in the extent of the city. It was resolved to offer freedom to any Helots who would assist in the defence. More than 6000 were enrolled, and then the administration became fearful of the strength it had created. Succours, however, arriving from some of the allies, they now thought they could command the fidelity of the new levy. Agesilaus showed his ability in an imposing disposition for defence; and by this, to-

gether with the fame of Lacedæmon, the enemy was deterred from an attack, which might, not improbably, have succeeded. Epaminondas again proceeded down the river, pillaging and burning every unfortified town, and laid siege to Gythium, the port of Lacedæmon. But, though he kept strict discipline among his Bœotians, he could not equally manage his Peloponnesian allies. They were tired of winter warfare, laden with booty, and tempted by the nearness of their homes; and their dropping off diminished his army till he thought it prudent to quit Laconia.

The ferment was great in Athens on hearing the imminent peril of Lacedæmon, less from friendship to that power than from apprehension of Thebes. The council summoned an assembly. It was addressed by ambassadors then present, from Lacedæmon and its allies, who magnified the danger of Theban ambition, and the benefits of friendship between Lacedæmon and Athens. A murmur arose, that the Lacedæmonians talked of friendship when they were in distress, but that when they were prosperous, their conduct had ever been overbearing. "Yet," it was said, "at the end of the Peloponnesian war, when the Thebans urged our utter ruin, they prevented it." "Besides, we are bound by oath to aid the Lacedæmonians, who are not attacked for any injustice, but for the just succour given to the Tegeans when attacked by the Mantineians contrary to the oaths." This argument worked on most, though some were blinded by party violence so far as to justify the Mantineians. But when the Corinthian ambassador called on them to avenge the unprovoked ravage of his country, to which not even malice could impute any breach of the treaty, the cry that he had spoken well was general; and the result was a vote that the whole strength of the commonwealth should march under Iphicrates to the relief of Lacedæmon. The army marched; but Iphicrates, apparently, was not zealous in the cause; for he incurred great blame by a dilatory conduct very unlike his usual activity. He did not reach Arcadia till the Thebans were quitting Laconia, and he let them return home unopposed.

The invasion was over, but it had broken the power of Lacedæmon. A large part of the unprivileged Laconians remained in revolt, and nearly all the Helots. The able Theban leaders took

the opportunity, while they were masters of the field, to establish a permanent check on the rival state. They invited all the scattered relics of the Messenians to return and repossess the country of their fathers, to which, in all their wanderings and sufferings, they had ever looked with love and fond regret. Epaminondas was patron of the new city of Messene, built at the foot of Mount Ithome, on which the citadel was placed. The work was completed without interruption; and thus the Thebans, in restoring the inheritance of a brave and injured people, deprived Lacedæmon of half its territory, and established on its frontier an inveterate adversary that formed a rallying point for its disaffected subjects. Few statesmen have ever been able so well to combine in one measure the furtherance of ambitious projects and the gratification of a benevolent disposition.

Next year, the Thebans, invading Peloponnesus, were obliged to return home before they had done any thing considerable, by the hostility of the Thessalians under the Tagus Alexander of Phæræ. Meantime, a schism was rising in their confederacy. They had not, like the Athenians and Lacedæmonians, any superiority in ancient fame, in political institutions, or in the character of their people, which could make their allies consider obedience as their due. They had only numbers, courage, and discipline, with an extraordinary man at their head; in the former respects the Arcadians were little inferior, and they had now a chief of no common ability. Lycomedes of Mantinea, was noble and wealthy, an active promoter of the Arcadian union, and distinguished both in council and in arms. He advised his countrymen no longer to make themselves the blind instruments of Theban ambition. "As soldiers," he said, "you are notoriously among the best in Greece. Without you, the Lacedæmonians never invaded Attica, nor will the Thebans now invade Laconia. If you are wise, you will insist on equality with Thebes. You have formerly raised the Lacedæmonians, you are now raising the Thebans; and shortly you will find the Thebans but other Lacedæmonians." The Arcadian people submitted themselves entirely to the direction of Lycomedes, and under him they were active and successful, insomuch that they began to be held the best soldiers of the time. But their

strength and success were far from being grateful to the Thebans, when coupled with their rising spirit of independence.

The distress of Lacedæmon had now been considerably alleviated by the growing disunion of its enemies, and by cordial support from Athens, principally directed by the skill of Chabrias. Additional assistance was derived from an emissary of Persia, who had been sent to mediate a peace on the condition that Messenia should return to subjection; and who, when this stipulation was rejected by the Thebans, had employed a large sum of money in raising mercenaries for Lacedæmon. Soon after, the Argians, Arcadians, and Messenians, were defeated by Archidamus, the son of Agesilaus, without the loss of a single Lacedæmonian, a circumstance from which this action became celebrated under the title of the Tearless Battle. At the same time the Thebans were pressed by the war with Thessaly; they, therefore, began to wish for peace, and they turned their eyes to Persian support as the likeliest means of enabling them to make it on their own terms. Pelopidas was sent to Susa, accompanied by ministers from Argos, Elis, and Arcadia: his manners were pleasing, his conduct dexterous, and he won the king to the side of Thebes. A Persian of rank accompanied him to Greece with a written mandate, requiring that Messene should be independent; that the Athenians should lay up their fleet; that war should be made upon them if they refused; and declaring that, if any city refused to join in such war, the king would direct his first hostility against it.

The Thebans now assumed to be the arbiters of Greece, and their summons for a congress to meet at Thebes was generally obeyed. But when, on the Persian rescript being read, the Thebans demanded that those who wished to be friends of the king and of themselves, should immediately swear to the terms proposed, the deputies from the cities generally answered that they were sent not to swear to any propositions, but to hear and report them to their constituents. The Arcadians were more decided in their opposition. Pelopidas had spoken of them contemptuously in Persia, and the court had consequently slighted their ambassador; who returned from his mission in high wrath, and reported to the assembly that the king had bakers, cooks, cup-bearers, and door-

keepers in plenty, but men to fight with the Greeks he had searched for and could not find. The address of their envoy was well suited to bias them against any settlement of Grecian affairs to be made under the authority of Persia: and it probably contributed much to the same effect, that the delegates sent to the general congress were mostly taken from the party opposed to Theban ascendancy. Lycomedes was one of these, and he not only declined the oath, but said that the congress ought to have been held on the seat of war, and not in Thebes. The Thebans angrily exclaimed that he was acting as an incendiary in the league: whereupon he declared that he would sit no longer, and went home, accompanied by all the other Arcadian deputies. The meeting broke up. The Thebans sent to every city separately requisitions to accept the terms, expecting that none would venture to incur the united enmity of Thebes and Persia: but Corinth first refusing, and adding that it wanted no interchange of oaths with the king, most others followed the example; "and thus," says Xenophon, "this attempt of Pelopidas and the Thebans to acquire the empire of Greece came to its end."

The Achæians were fortunate in their ancient institutions, and free from the seductions of empire; and hence their character for probity stood high, and they had been less vexed than most of their neighbours with bloody dissension. They had parties, and we have seen in Athens that the same ground-work of law would uphold a very different fabric of government, as principles were applied by the Many or the Few; but we have also seen that the existence of acknowledged principles was a common safeguard to all, since it narrowed the field of oppression when parties were unequal, and of contest when they were balanced. The Achaian constitution seems to have kept its form, though administered by the nobles or the people, as Lacedæmon or Athens preponderated. Since the Peloponnesian war the rulers had been aristocratical; but now the democratical party looked for support to the imperial democracy of Thebes. Epaminondas led an army into the province. The men of rank threw themselves on his liberality, and he did not disappoint them; for while he transferred the administration to their opponents, and took pledges of fidelity to Thebes, he neither changed the constitution, nor suffered the banishment of any

individual. But his moderation offended the high democratical party throughout the league; the Arcadians complained that he had settled Achaia according to the interest of Lacedæmon, and the complaint found support in Thebes. The Theban people decreed that regulators should be sent to the Achaian cities; and these, concurring with the multitude, expelled the nobles, and established unqualified democracy. It soon appeared that the wise liberality of Epaminondas had been best for Thebes, for Arcadia, and for the Achaian Many themselves; for the exiles making common cause, and attacking each city separately, recovered all; and, instead of remaining neutral, as before, they became bitter enemies to the Theban league, and most troublesome neighbours to Arcadia.

The city of Sicyon had commonly been in alliance with the Achaians, and under similar laws. The predominance of Lacedæmon had preserved its government in the hands of the rich and noble; and they had kept it faithful to their patroness, till very recently, when it had yielded to the growing strength of the Theban league. This change took all power from Euphron, who had previously managed the affairs of the commonwealth; but he wished, as he had been first of the citizens under Lacedæmon, to become so now under her enemies. For this purpose he persuaded the Argians and Arcadians that, if authority rested in the wealthy, they would take the first opportunity of renewing the alliance with Lacedæmon: whereas, if democracy were established, the city would adhere to its present connexion. The Argians and Arcadians entered into his views, and sent soldiers to support him: he assembled the people in the presence of these auxiliaries, and obtained a vote to establish democracy. He was chosen general with four others; his son was placed in command of the mercenaries; and, henceforward, he advanced with rapid strides on the highway of tyranny. He lavished on his mercenaries the public treasure and that of the temples, besides the private property of many persons, whom he drove into banishment as friends of Lacedæmon. When he thought himself strong enough, he turned against his fellows in office, assassinated some, and drove out others, till he ruled without a rival. In all these violences the allies were induced to acquiesce, partly by money, and partly by the ready service of his troops.

Æneas of Stymphalus, on being elected general of the Arcadians, resolved to put down this oppressor. He marched to Sicyon with his army, and entering the acropolis he called together the principal men, and sent for those who had been driven into exile without a legal sentence. Euphron fled to the harbour, which he found the means of delivering to the Lacedæmonians; and by this he obtained a favourable hearing, though probably no real belief, for the assertion that, in spite of appearances, he had ever meant fairly towards them. Meantime strife had risen in the city between the nobles and the commonalty; and Euphron, having hired a band of mercenaries in Athens, offered his services to the latter, and found acceptance. He mastered all the city except the acropolis, where Æneas had placed a Theban governor and garrison. He then went to Thebes with large sums of money, in the hope of persuading that government to expel the nobles from Sicyon, to withdraw the garrison, and to leave the city in his hands. The recalled exiles also went to Thebes to urge a counter petition: but they saw their enemy received in a manner which made them think that his suit would be granted, and some of them, driven wild by the fear of renewed oppression, fell upon him publicly and slew him. The assassins were carried before the council to be judged; but they were acquitted on the ground that tyrants and traitors were already condemned by the universal judgment of mankind, and that, Euphron being both, his slayers were entitled to honour, not to punishment.

Since the last settlement of Phlius by Agesilaus, that little state had been the active, faithful, and dauntless ally of Lacedæmon, throughout its greatest distress, and had done service out of all proportion to its population and strength. Its situation on the Argian border, and in the line of march from the isthmus to Laconia, gave it great facility of annoying the enemy, but peculiarly exposed it to suffer by his hostility. During the second invasion of Peloponnesus by Thebes, the exiles, who had been driven into banishment after the siege of Phlius by Agesilaus, having intelligence in that city, surprised the acropolis, while the Eleian and Arcadian forces, by concert with them, assailed the walls. Both were beaten off by the prompt and energetic resistance of the besieged, and the Phliasiens continued the steady

friends of Lacedæmon, though surrounded with watchful enemies far more powerful than themselves. Their power was not sufficient to make their history important in the general outline of Grecian politics, but their loyalty to their engagements, and singular spirit, activity, and prudence in defence, form the subject of a very interesting narrative in Xenophon, of which the English reader will find the substance in Mr. Mitford's *History of Greece* (c. xxviii. s. 1).

Oropus, an Attic port on the border of Bœotia, being seized by some Athenian exiles, the whole force of Attica was marched against it; but no assistance came from any of the allies, and the Athenians were unable to reduce it. They became, in consequence, discontented with their allies, and the knowledge of this gave to Lycomedes the hope of advancing his favourite project of emancipating Arcadia from Theban influence. He obtained a decree from the Ten Thousand, the name by which the general assembly of Arcadia was designated, authorising him to negotiate an alliance with Athens, whither accordingly he went. The proposal was exclaimed against by many as contrary to the treaty with Lacedæmon: but when it was represented that any thing which loosened the connexion of Thebes with Arcadia would be beneficial no less to Lacedæmon than to Athens, the alliance was accepted. Lycomedes, in returning, unfortunately landed at a port which was full of Arcadian exiles, and by them he was murdered.

The Corinthians, cut off from Lacedæmon, had become accustomed to rely in great measure on Athenian auxiliaries for their defence. A suspicion arose that the Athenians cherished designs against the independence of Corinth, and the government dismissed the Athenian troops, saying that it had no further need of them. Without them, however, it was unable to withstand its powerful enemies, and persons were sent to sound the Theban government, and to learn whether an application for peace would be successful. Being encouraged to expect it, the Corinthians asked that they might first communicate with their allies, so that those who desired peace might be parties; and this being granted, they sent ambassadors to Lacedæmon. They represented the difficulties of their situation; expressed their willingness to persevere in the war, if the Lacedæmo-

nians could point out any hope of safety, and if not, their wish that the Lacedæmonians would join with them in making peace: but if this might not be, they requested the Lacedæmonians to allow of their making a separate peace; "for if we are saved," they said, "we may serve you hereafter; which if we be now ruined, we never can." The conduct of the Lacedæmonians in this instance was generous; they encouraged the Corinthians to make peace, and released from their engagements any others of their allies who might wish to be relieved from war. For themselves, they said, they never would submit to lose Messenia, which they had received from their fathers. The Corinthians sent an embassy to ask for peace; the Thebans proposed alliance, but this the Corinthians refused. The Thebans then, admiring their resolution not to take part, though pressed with danger, against their friends and benefactors, granted them peace with neutrality. The same terms were also given to the Phliasians.

In Orchomenus, the second city of Bœotia, the oligarchical party was the strongest, and it bore the sway of Thebes with great reluctance. An oligarchical party was still numerous in Thebes itself, but the chiefs were in exile; and these plotted with their friends in the different cities, and particularly in Orchomenus, to effect a revolution which might restore them. The conspirators mostly served in the cavalry, and a general review of the cavalry of Bœotia was the occasion chosen for the execution of the plot. The secret had been betrayed to the Bœotarchs; the conspirators of the smaller towns were pardoned, but all the soldiers of the Orchomenian cavalry were brought in chains before the assembled Theban people. From the earliest period an inveterate hatred is said to have subsisted between Thebes and Orchomenus; and never was a feud more bloodily terminated. Not only were the cavalry put to death, who had in some sense provoked vengeance, but it was decreed that Orchomenus should be levelled, and the whole people sold into slavery. The decree was of course resisted. The Thebans marched in arms to Orchomenus, and having taken it, slaughtered all the men, and sold the women and children.

After this an army was sent into Thessaly. The Tagus Alexander, already mentioned as a troublesome enemy to

Thebes, was an able man, but a rapacious, oppressive, and faithless ruler. His tyranny provoked resistance, and the Thebans had already sent Pelopidas with an army to support the revolting cities. That expedition had ended unprosperously; but fresh oppressions raising fresh revolts, the Thessalian friends of Thebes again requested a supporting army, and Pelopidas for the leader. Both suits were granted. Pelopidas fell in the first battle; but, nevertheless, the presence of a Boeotian force relieved the opposers of the Tagus, and the end was an accommodation between Alexander and the Thessalian cities, and his alliance with Thebes.

Elis was oligarchically governed, but its democratical opposition was patronised by the Arcadians. Hence arose war between the two states; and Elis returned to the Lacedæmonian alliance. The people of Pisa, near Olympia, had ever claimed the right of presiding at the Olympian festival, and the Arcadians now backed them. The Arcadians seized Olympia, and the Pisans commenced the solemnity under their protection; but it was interrupted by the Eleian forces, and at the time when all war was usually suspended, the sacred ground itself became a field of battle. The Eleians were generally despised as soldiers, but this day, through zeal to vindicate their sacred character, and anger at what they deemed a shocking profanation, they proved themselves equal to the bravest of Greece. The day was theirs, but they could not retake the temple.

The employment of mercenary soldiers—vagabonds without a country of their own, who hired themselves out to states with which they had no other connexion, for the detestable work of war—was already common in Greece. We have now the first example of an approach to the modern use of standing armies embodied from the people. The Arcadian Eparites were a select militia of citizens from every state of the Union, who were to be always ready for service. They had contributed much to the successes of Arcadia, but their establishment involved a danger which soon became manifest. The present chiefs considered that, by making sure of the Eparites, they might controul all opposers. For this purpose, the Eparites must be kept embodied, and in pay, which seemed also necessary to the preservation of their conquests, and the

protection of their new allies. Their own resources were insufficient, but the Olympian treasury was in their hands, and they resolved to brave the abhorrence of Greece by using it. The source of the pay, now regularly issued to the Eparites, could not be concealed. The Mantineians condemned it by a vote of their assembly, and sent a sum of money to the general government as their share of the pay now wanted for the Eparites. Their leading men were cited before the Ten Thousand, to answer a charge of treason to the Union; and not appearing, they were condemned. A body of Eparites was sent to apprehend them, but the Mantineians shut their gates, and refused to give them up. Meantime shame and horror at the sacrilege prevailed in the general assembly of Arcadia, insomuch that a vote was passed forbidding further trespass on the sacred treasury.

The situation of the rulers was critical. They had blackened their character; they had lost the majority in the assembly; they had lost beyond recovery the command of the Eparites; for those who could not serve without pay, daily left that body, and were succeeded by men of competent fortune, who enlisted for the purpose of weaning it from its present attachments. Grown desperate, they sent to Thebes, and assuring that government that Arcadia was on the point of joining Lacedæmon, urged the march of a Theban army into Peloponnesus. The application was favourably received. Meantime, their opponents becoming decidedly superior in the assembly, ambassadors were sent to remonstrate at Thebes against the intended march of Theban forces into Arcadia, uncalled for by its government. It was next resolved that the temple at Olympia neither belonged to Arcadia, nor ought to be coveted by it, but that it would be both just and pious to restore it to Elis. On such grounds the Eleians gladly treated for peace, and deputies from all the Arcadian towns assembling in Tegea, received the ministers of Elis. A Theban officer also came to the congress, attended by three hundred Boeotian heavy armed foot.

The Arcadians now abandoned themselves to festivity, all but the principals in the sacrilege, who knew themselves not only excluded from power by the present change, but liable to the severest punishment. They communicated with the Theban, and found him ready to

support them. Some of the Eparites were still their own, and, backed by these and by the Boeotians, they shut the town-gates, and sent parties to seize the leading men of every Arcadian city. The persons arrested were far more than the prison could contain; but many escaped, and among these the greater part of the Mantineian leaders, whom it had been most wished to secure. Mantinea was only twelve miles off. A herald was sent thence to Tegea, to demand the liberty of the arrested Mantineians; to remonstrate against the execution or imprisonment of any Arcadian, without due trial; and to offer security, that any Mantineian, who might be accused of treason, should appear to answer. The Theban, perplexed and disconcerted, released his prisoners, and apologized for what he had done, misled, as he pretended, by false intelligence of a plot for betraying Tegea to the Lacedæmonians. He was suffered to depart; but ministers were sent to Thebes to accuse him. They were roughly repulsed, and Epaminondas, who was then commander-in-chief, told them that the officer had done much better when he seized the men, than when he released them; "For," said he, "when we are engaged in war on your account, your making peace, without consulting us, is a manifest treason. Be sure, then," he added, "that we will march into Arcadia, and there, with our friends, we will continue the war."

The interference of Thebes in the government of Arcadia had been insolently arbitrary, and the pretence to justify the threat of war was evidently futile. Had Arcadia made peace singly with Lacedæmon, there might have been reason for complaint; but the war with Elis was a separate matter, involving no Theban interests, and in which Thebes had taken no part. The act may have been prompted either by the wish to support at all hazards an administration which could only stand by keeping the country dependent on Thebes, or else by suspicion that the change had originated in Lacedæmonian intrigue, and would end in alliance with Lacedæmon. If by the latter, it made necessary the very measure which it was intended to prevent. In effecting the recent change, the entire oligarchical party had concurred with the greater part of the democratical—with nearly all, indeed, who were not implicated in the sacrilege. The oligarchical party would naturally lean towards Lacedæmon; the democratical

would prefer the friendship of Thebes, while it could be retained with independence. That hope being withdrawn, both parties concurred in the measures to be taken. They conferred with the Eleians and Achaïans, and sent for Athenian succours, according to the treaty made by Lycomedes. Ambassadors were sent to Lacedæmon, and an alliance made on terms that marked the humbled state of that commonwealth; for it was agreed that the chief command should rest with the city in whose territory at any time the army might be.

Epaminondas advanced into Peloponnesus, and was joined by his allies there, namely, the Argians and Messenians, and four towns of the Arcadians. The rest of the Arcadians were assembled at Mantinea, with their Athenian, Achaïan, and Eleian allies, and a part of the Lacedæmonians, the rest of whom remained with Agesilaus, at Sparta. The Theban general seeing no opportunity of advantageous action, remained quietly in Tegea, till he heard that his opponents had pressed Agesilaus to join them, and that the remaining Lacedæmonians were actually on their march. He then suddenly marched for Sparta, and had well nigh taken it empty; but Agesilaus was informed of his movement just in time to hasten back, and arrive before him. Though his numbers were very scanty, the able disposition of Agesilaus secured the town against a sudden assault; and a strong Theban detachment having seized a commanding height, Archidamus advanced over very difficult ground, with less than one hundred men, and—such was the power of desperation—drove them from it. Expecting that the forces collected in Arcadia would come to the aid of Lacedæmon, Epaminondas would not await them, but returned to Tegea, and sent forward his Theban and Thessalian horse, to plunder the Mantineian territory. It was harvest time, and the Mantineians believing that the enemy was gone, their servants and cattle were all in the fields. A body of Athenian cavalry was just arrived; they had travelled far, and men and horses were without refreshment; nevertheless, they did not refuse their assistance, though greatly outnumbered, and that by the Theban and Thessalian cavalry, esteemed the best in Greece. An obstinate conflict ensued, in which the Athenians had the advantage, and the Mantineians got in their property without loss.

Decisive action now was necessary to Epaminondas, for the period of his command was drawing to its close. He had hitherto met with little but failure in an enterprise, by the undertaking of which he had united all the most powerful states of Greece against his country. If he withdrew without a victory, the allies whom he came to aid would be besieged by the enemy, and his own reputation probably ruined: "so that it seemed to him," says Xenophon, "impossible not to fight, considering that if he were successful it would cancel all complaints, and that his end would be glorious if he fell in the attempt to give to his country the dominion of Peloponnesus." In spite of the checks which had been received, his genius had kept up union and mutual confidence in all the various tribes that composed his host. His force exceeded that of his adversaries, and the more as they did not venture again to leave Laconia unprotected. His evolutions led them to believe that he would not fight before the morrow; and then he wheeled his army upon them, while their minds were no longer strung, nor their battalions arrayed for immediate action. In the battle which followed, instead of engaging like former commanders along the whole extent of the ranks, he exhibited a most perfect and refined application of the principles which had won him the victory at Leuctra. He formed his line obliquely, strengthening to the utmost the point which was nearest to the enemy; while he placed his weaker divisions in the parts which sloped off backwards; so that they might come up in time to complete the victory when the hostile line had been broken through by their fellows, but not soon enough to enter at the first into a doubtful contest, and perhaps by their defeat to dishearten the rest. The event did not belie his expectation: but just at the critical moment of the fight, he fell. He lived to know that his army was victorious, then fainted, on the extraction of the weapon, and died, as it is said, with an expression of joy that he had not lived to taste of defeat. No one attempted to improve the victory; the heavy armed infantry stood upon the spot, the cavalry quitted pursuit, and rejoined the phalanx; and the light armed troops and targeteers, crossing the field as conquerors without looking for support, were charged and cut to pieces by the Athenian horse. The whole result of the day was com-

pletely indecisive. Such was the celebrated battle of Mantinea. (B. C. 362.)

Epaminondas has been ranked by many as the first and purest of Grecian worthies. There is much in his character to support the praise; but it must be taken with considerable abatement. He was a man of the most commanding genius; a devoted Theban patriot; and, as far as we can judge, singularly free from mere personal ambition, and its attendant vices of envy and ill will. His steady friendship with Pelopidas is alike honourable to both. But we cannot award him the rarer praise of love of peace, of extended regard to the welfare of Greece, of scrupulous political morality, or even of sound views of his country's true interests. Under his direction the administration of Thebes was insatiably ambitious and overbearing. In some particular acts of tyranny, such as the expulsion of the Plataeans and Thespians, and the massacre of the Orchomenians, it may be doubted whether Epaminondas was to blame; and the rather, as we have seen in the settlement of Achaia an instance where his own measures were liberal and moderate, while his influence could not support them. But the bent of his policy was to make Thebes, at whatever cost of blood or suffering, the mistress of Greece; and the last aggression on Arcadia, which was undoubtedly his measure, and might vie with the worst deeds of Sparta herself, shows that he was little scrupulous in the choice of means for effecting his purpose. The manner of his death has been the theme of general applause. Yet he was cut off in the perpetration of a great crime, by measures which, no doubt, displayed much talent, but were the certain cause of misery to unoffending thousands; and those last words, which have been so famous, seem, if indeed they have been truly reported, to have proceeded less from an enlightened love of his country, than from a personal and patriotic vanity, altogether heedless of the cost mankind might have to pay for its gratification.

With the life of Epaminondas the energy ceased which had maintained union and activity in the Theban confederacy; and with it ended also the fear which had united so many states in opposition. A general accommodation soon ensued, in which the allies of Lacedaemon consented to the demand, that the Messenians should remain in-

dependent; and Lacedæmon, which alone refused, remained nominally at war with all the states allies of Thebes. The weariness of all parties, however, produced a practical cessation of hostilities, during which the attention of Agesilaus was invited to Egypt. That country had revolted from Persia, and taken to itself a king, to whose assistance Agesilaus, at the age of eighty years, led an army. He hoped, according to his friend and historian, to punish the Persian monarch for the support he had given to the enemies of Lacedæmon, and once more to free the Greeks of Asia from his yoke. Another motive which would probably weigh both with him and with the Lacedæmonian government, was the hope of acquiring wealth to support a war for the recovery of Messenia. Civil troubles arose in Egypt, and it was in them, not in war against Persia, that the Grecian army was principally employed. The king, to whose support Agesilaus had originally come, was deserted by his subjects; and the succession to his throne was disputed. Agesilaus established on the throne the candidate whom he supported, and, sailing for Greece, died on the voyage. He left a high reputation as an able, though not a fortunate statesman, and one of the few who, in promoting the aggrandisement of their communities, did not lose sight of the common welfare of Greece. This part of his character was strongly shown, when the means of taking Corinth by assault being offered to him by some Corinthian refugees, he refused, observing that it might be fit to chastise Grecian cities, but not to destroy them. But his affections were violent, whether in friendship or animosity; and he sometimes suffered them to overbear his better judgment, and even his integrity, as in the two most culpable actions of his life, his supporting the seizure of the Cadmeia, and excusing the aggression of Sphodrias. His character is strongly contrasted, both in its worse and better features, with that of his great opponent Epaminondas, whose noblest quality was his magnanimous superiority to personal interests and passions, whose greatest fault, the disposition to pursue the aggrandisement of his own commonwealth, careless of any injury which might follow to others.

The old Grecian system of confederacy was now entirely broken up. Lacedæmon was fallen, and the ascendancy of Thebes did not survive its author. One

might expect that the following period would be comparatively peaceful and happy, since the smaller states were no longer obliged to serve the ambition of the greater. Far from it: with the habits of the Greeks, lasting quiet was impossible, and a general war was only exchanged for a complication of petty quarrels, many of which, while the confederate system was in vigour, would probably have been referred to the judgment of the superintending state. Revolutions were more frequent, governments more jealous. The protecting power, by assuring stability to the subordinate administrations, had enabled them to relax the suspicious vigilance of fear; and the authority of its officers had often been employed to compose dissensions and moderate revenge. But now the only security of the ruling party was the complete depression of their adversaries, and this they sought by more unsparing massacre and banishment. Cruelty provoked retaliation; every feud still increased in bitterness; and it was observed that there were now more exiles from single cities than formerly from all Peloponnesus.

Argos has lately been little mentioned; and its inactivity is accounted for by the weakness resulting from a sedition and train of executions almost unparalleled. Some leading men, finding that their popularity had been overthrown by calumnies, and that their situation was growing dangerous, plotted the overthrow of the democracy: the design was discovered, and some of the culprits arrested and put to the torture. The chiefs of the conspiracy destroyed themselves; but one of the tortured having accused thirty other persons, all these were put to death without examination. It was now acknowledged that a plot had existed, and it was thought that the guilty were far more numerous than those who had suffered; fresh accusations were brought, and, in the present temper of the people, accusation was equivalent to conviction. The popular alarm and suspicion rose to absolute frenzy, and increased with every new charge, till above 1200 of the principal citizens were executed, and the people still called for more. The accusers now became alarmed; they knew not how to feed the fury they had raised, nor how to quiet it; their hesitation seemed suspicious, and they themselves were put to death. After this, says the author from whom we

have the relation, the multitude became calm ; but he makes no attempt to account for the restoration of tranquillity. In reflecting upon such revolting passages of Grecian story, we may well condemn the excesses incident to the immediate government of a multitude. But our censure of the individuals composing it should be mitigated by the consideration that, even when possessed of specious accomplishments, they were unenlightened by a sound education, and unaided by a rational system of jurisprudence. With the habits of mind produced by the one, and the regularity of proceeding secured by the other, the horrid excesses we have been surveying could never have taken place : the want of these prime blessings must be called in to explain them.

SECT. III.—For a short time after the overthrow of the Athenians in Sicily, Hermocrates kept the lead in Syracuse. At his proposal, ships were sent to assist the Lacedæmonians against Athens ; he was himself the commander of the squadron and his men were remarkable for courage and discipline, and especially for good conduct in quarters. Meantime, his opponents prevailed in Syracuse ; he was displaced and banished ; and after exhorting his seamen cheerfully to obey their new leaders, he departed, deeply regretted both by them and the allies. Some changes had been made by the opponents of Hermocrates in the Syracusan constitution, which made its democratical character more unqualified, but tended to lessen the energy of its administration. It had been enacted that most of the magistracies, hitherto elective, should be filled by lot ; a measure likely to be popular, as opening equally to all the chance of office, but certainly not favourable to the able discharge of its duties. While things were yet unsettled, the Carthaginians invaded Sicily, for the first time since their defeat by Gelon, seventy years before : there was neither union in the Sicilian cities nor vigour in the Syracusan government, and Selinus and Himera were quickly taken. At this time Hermocrates arriving, was received at Messene. Pharnabazus had given him money to aid in effecting his restoration, and he was thus enabled to build five triremes, and raise a thousand mercenary soldiers ; he was joined by many Syracusan exiles and fugitive Himereans, and he first employed his force against the common enemy with great activity and success. His fame

spread wide ; he grew daily more popular in Syracuse, till his friends there thought the time was ripe for his return. At their invitation he entered Syracuse with a band of his followers ; but a contest ensued in which the ruling party was victorious ; Hermocrates fell, and his surviving friends were condemned to banishment.

Indecision and disunion increased among the cities, and no vigorous effort was made to check the arms of Carthage. Agragas, or Agrigentum, fell, the second city of Sicily, which had enjoyed an overflow of prosperity scarcely credible, were not the testimony of historians confirmed by the magnificent remains of its public buildings. In this crisis, Dionysius came forward in Syracuse. Though a partisan of Hermocrates, he had escaped the doom of banishment, and had since distinguished himself by his gallantry in the war. He now, at the age of twenty-four, commenced his political career by violent invective against the generals, and prevailed so far with the people, that they were displaced ; and he was among those appointed in their room. After this, he obtained a decree to recall the exiled friends of Hermocrates. There was yet a large opposing party ; but every attempt to overthrow him failed, and failing, made him stronger. He was appointed autocrator-general conjointly with Hipparinus, the first in birth of the Syracusans ; and both were continued in office till the death of Hipparinus, after which Dionysius was elected alone. This office, which was usually confined to rare emergencies, united the powers of first minister and commander-in-chief, and gave a constitutional form and mode of exercise to the authority held by the favourite of the people, or, at least of the prevailing party. But, where civil war was only prevented by decided superiority of force in one of the factions, the preservation of the laws was to the ruling party so much less pressing an object than the preservation of their own ascendancy, that their leaders were often encouraged to a vigour beyond the law. In Grecian party language, the friends of the people were to be supported even in somewhat arbitrary dealing with the people's enemies. But the opposite party also claimed to be the people, and complained that they were kept down by the violence of a faction ; and by them any man decidedly pre-eminent in the ruling party,

would be called the Tyrant. In the case of Dionysius, there was much to justify the epithet. He was continued through life in an office rarely filled, and usually for a short term ; and, though all great questions were decided by the people, he exercised, in the ordinary course of public business, a wider and more discretionary authority than was commonly trusted to officers under a democracy. A great mark of a tyrant was to depend for his support on mercenary troops. Dionysius entertained a large body of mercenaries for his wars with Carthage, and though his chief trust was not in them but in the Syracusans of his party, the mercenaries served him well in some civil contests, and added much to the strength of his government. The effect of all this was, that not his enemies only, but the Greeks in general habitually styled him Tyrant of Syracuse, and sometimes of the Sicilian Greeks, all of whom were latterly under his influence. But it is to be remembered that his power in Syracuse rested on the favour of a majority among the citizens, and that his command over the Sicilian, and many also of the Italian cities, was like to that of Athens or Lacedæmon over their subordinate allies.

Dionysius chiefly prevented all Sicily from falling under the yoke of Carthage ; he sustained and repelled with the greatest ability and bravery, the attack of an overwhelming force, and gave union and security to the Grecian interest in the island. He brought under his command the greater part of Sicily, and much of Italy ; all which, for sixteen years after the last peace with Carthage, he governed in very remarkable quiet, prosperity, and abundance. These facts prove him an able and liberal politician ; his moral character is more questionable. It has been his fortune to be known to us only through his bitterest enemies, who have striven to represent him as a monster of cruelty and rapacity ; and some have sought to make him an object of contempt as well as hatred by describing him as a slave to the weakest vanity and the most unmanly suspicion. Such imputations are irreconcilable with admitted facts ; and Mr. Mitford has gone so far in his defence, as to discredit, soften, or explain away every story which bears against him, and to set him up as a model of generosity and political virtue. The truth probably lies in the middle. The sway of Dionysius was evidently popular and

beneficial, and in some actions he showed a humanity very unusual in his age. We may willingly believe that his nature was kind, when no political interest opposed it ; but he was ambitious and unscrupulous ; and there is little appearance that pity ever stopped him in the prosecution of a favourite design. Two opposite anecdotes shall be given, and let it be remembered that both are taken from an unfriendly witness. The cities of Naxos and Catana being betrayed to him by their generals, he sold as slaves nearly all the citizens of both, and gave up the towns to be plundered by his soldiery. On the other hand, in Italy he defeated an army of his bitterest enemies, and reduced a body of 10,000 men to surrender at discretion, all of whom he dismissed without ransom. Policy, doubtless, had much to do in prompting both his cruelty and his generosity ; but it is fair to state, that the latter was not out of harmony with his general conduct, and that in his victories he seems to have been habitually anxious to spare unnecessary bloodshed.

Dionysius died about the time of Epaminondas's second invasion of Peloponnesus (B. C. 367). Though the form of his government was democratical, the authority gained by his popularity and abilities, in the general looseness of Grecian law, was greater than that of kings in a well-regulated monarchy. He had strengthened his ascendancy by intermarriage with the first houses of Syracuse ; and such was the combined effect of personal popularity and family influence that, on his death, his son, Dionysius, was elected autocrat-general, and stepped unopposed, as if by hereditary title, into the full authority of his father. Thus it is that, in turbulent times, or in an ill-constituted democracy, a popular leader passes gradually into a monarch. The case of Dionysius runs parallel with those of Gelon and Peisistratus among the Greeks, and of the Medici in Florence ; and it is to be observed that, in these three cases, but particularly the last, the power which originated in public favour became, before its fall, a grinding tyranny under the successors of the founder.

The younger Dionysius was indolent and dissolute, and his government, though it lasted undisturbed for twelve years, became before the end of that period both weak and unpopular. It was then overthrown by the revolt of the

Syracusans, under Dion the son of Hipparinus, a man of great courage and ability, and of cultivated taste for literature and philosophy; but haughty, violent, and arbitrary; not indeed destitute of patriotism, but far more governed by ambition. He had been in high trust and favour with the elder Dionysius, who had married his sister; but after his death disagreements had arisen between his son and Dion, which ended in the banishment of the latter. Returning with a small band of followers, Dion was welcomed as a deliverer by the greater part of the Syracusans, and elected autocrator-general without opposition; while Dionysius was besieged in the citadel, and both he and his followers were in the end obliged to retire into Italy. But Dion soon became almost universally unpopular, and when, after great struggles, he succeeded in holding his office, his reliance was not on the citizens, but on a band of foreign mercenaries. His mind was full of projected reforms, but his rigid and haughty character was little fitted to work their adoption by gentle measures, though persuasion or conviction. In all he was opposed by Heracleides, his principal coadjutor in the outset, and now his rival in authority, who was appointed autocrator-general in conjunction with him, and intrusted with the command of the fleet. Heracleides had made himself highly popular by unbounded indulgence to the multitude, and Dion, unable to cope with him in favour, endeavoured to supply the deficiency by force. Urged on partly by his temper and partly by the difficulty of his situation, and exasperated by the galling change in the public feeling, he became daily more tyrannical. He removed Heracleides by assassination, and confiscated the property of others among his adversaries, to pay his soldiers; till at length his most trusted friend plotted his murder, and he was assassinated in the hearing of his guards, no man moving to assist him. Thus perished Dion four years after his return from exile (B. C. 353). It is difficult to say why the name of tyrant, universally given to the elder Dionysius, has been refused to Dion, whose power appears to have been latterly both more arbitrary in its tenure and more severe in its exercise. Much probably is to be ascribed to the party bias of the historians, and much to the wide extent and long duration of the power held by the Dionysii, and the shortness of Dion's,

which has made his name more remarkable as the overthrower, than as the holder of a tyranny. In justice it must be observed, that the state of Syracuse, after the expulsion of Dionysius, was one of great confusion, where faction was violent, law unsettled, and the difficulty was very great to reconcile liberty with authority. Many of Dion's earlier unpopular measures may have been prompted by the opinion of public duty in a man, whose principles were adverse to democracy, and whose habit of mind revolted more from weakness and disorder in a government than from excessive rigour; but it seems likely that the changes which he projected were not the best, and it is certain, that his manner of enforcing them was altogether unjustifiable.

For eight years after the death of Dion, Syracuse was ever changing one tyrant for another, till it became half deserted through the multitude of its calamities. Of the other cities, some were utterly ruined and made desolate by war; others filled with a mixed crowd of unpaid mercenaries, Greek and barbarian, incapable of peaceful industry, and ready to lend their swords to any revolution which promised pay or plunder. At length a Syracusan party cast their eyes to their mother city, and requested a Corinthian general, whose authority might command respect from all, and repress the ambition of those who desired to be tyrants. Meantime the party friendly to Dionysius invited back their leader, and he again became the lord of Syracuse; while his most active opponents fled to Hicetes, the tyrant of Leontini, and with him made war on Dionysius.

Timoleon was a Corinthian of noble birth, and distinguished ability as a warrior and statesman. His brother having, partly by popularity and partly by the aid of a mercenary force, made himself tyrant of Corinth, Timoleon, after vain remonstrances, slew him. When the Syracusan ambassadors arrived, the deed was recent, and all Corinth was in a ferment,—some extolling Timoleon, as the most magnanimous of patriots; others execrating him as a traitor. The request of the Syracusans offered to the Corinthians the means of calming their dissensions, by the removal of the obnoxious individual, and to Timoleon a field of honourable action, in which he might escape from the misgivings of his own mind, and the

reproaches of his mother, who never forgave him. Timoleon proceeded to Sicily, with a small band of mercenaries, principally raised by his own credit. On arriving he received considerable reinforcements, and soon gained a footing in Syracuse. The greater part of the city had already been taken by Hicetes from Dionysius, and the whole was divided between three parties, each hostile to both the others. Timoleon was in the end successful. Hicetes withdrew to Leontini, and Dionysius surrendered, himself and his friends retiring to Corinth; while two thousand mercenaries of the garrison engaged in the service of Timoleon. This final expulsion of Dionysius took place fifty years after the rise of his father, and four after the landing of Timoleon in Sicily. (B. C. 343.)

Timoleon remained master of a city, the largest of all in the Grecian settlements; but almost a desert through the multitudes slain, or driven into banishment in successive revolutions. So great, it is said, was the desolation, that the horses of the cavalry grazed in the market place, while the grooms slept at their ease on the luxuriant herbage. The winter was passed in assigning deserted lands and houses as a provision to the few remaining Syracusans of the Corinthian party, and to the mercenaries instead of pay, which the general had not to give. In winter, when Grecian warfare was slackened or interrupted, the possession of good houses would, doubtless, be gratifying; but to men unused to peaceful labour, lands without slaves and cattle were little worth, and it was necessary in the spring to find them some profitable employment. Unable sufficiently to supply the wants of his soldiers from any Grecian enemy, Timoleon sent one thousand men into the territory belonging to Carthage, and gathered thence abundance of spoil. The measure may seem rash, but he probably knew that an invasion was preparing, and that quiescence would not avert the storm, while a rich booty would make his soldiers meet it better. The Carthaginians landed in Sicily. Their force is stated at seventy thousand foot, and ten thousand horse; while Timoleon could only muster three thousand Syracusans, and nine thousand mercenaries. Nevertheless, he advanced to meet them in their own possessions, and, by the union of admirable conduct with singular good fortune, won a glo-

rious victory, which was soon followed by an honourable peace.

Timoleon, professing to be the liberator of Sicily, next directed his arms against the various chiefs or tyrants, who held dominion in the towns. In this he may probably have been actuated by a sincere hatred of such governments; but he frequently seems to have little consulted the wishes of the people, whose deliverer he declared himself. Most of the smaller chiefs withdrew; the more powerful resisting, were conquered, and being given up to their political adversaries, were put to death,—in some cases with studied cruelty. Among the victims was Hicetes, who was submitted, with his whose family, to the judgment of that mixed multitude, now called the Syracusan people, and all were put to death. There is much appearance that Hicetes deserved his fate; but what shall we say of the people, which doomed to death his unoffending wife and daughters; and what of the general who, holding little less than absolute authority over his followers, referred such a matter to the decision of such a body?

Having every where established for Syracuse and for himself a superintending authority, which rested on the support of a prevailing party, like the controul of Athens or Lacedæmon over their allies, Timoleon sought to restore good order, abundance, and population, to the long afflicted island. Syracuse was still very thinly peopled, and it was torn by mutual jealousy between the remnant of the ancient Syracusans, and the numerous mercenaries and foreign adventurers, who had been rewarded for their services with lands and houses, and admission to all the rights of citizens. At one time the struggle ripened to a civil war, of which we know not the circumstances or the issue, but, probably, it was suppressed without the ruin of either party. At once to supply the void in the city, and to strengthen his government by a body of adherents who owed their all to him, Timoleon invited colonists from Greece, and settled at one time four thousand families on the Syracusan territory, and on a neighbouring plain of great extent and fertility no less than ten thousand. Similar measures were adopted in many of the other cities, under his controul. He revised the ancient laws of Syracuse, and restored them with amendments skilfully adapted to the altered state of the com-

monwealth. But to amalgamate into an united people so many bodies of men of various interests, and mostly trained to war and violence, was a work only to be accomplished by the energy of one able man; and in accomplishing that work, Timoleon was both enabled and obliged, by the lawless habits of his followers, to exercise an authority not less arbitrary than that of any tyrant he had overthrown. In one most important particular, he is superior, not only to those chiefs, to Gelon and Dionysius, and to all who ever held like power in Sicily, but perhaps, to all, with the single exception of Washington, who has ever risen to the highest power in times of tumult: for he appears to have directed his endeavours honestly and wisely to the object, not of establishing a dynasty of princes, but of so settling the government, and training the people, that they should be able after his death to govern themselves without an arbitrary leader. He died highly honoured and generally beloved, and for many years after his death the whole of Sicily continued in unusual quiet and growing prosperity. Yet, in doing justice to the great qualities of Timoleon, and the sincerity of his zeal for the public good, we cannot but own, that he was unscrupulous in the choice of means, even beyond the ordinary laxity of political morality in Greece, and that his fame is tarnished by some acts of atrocious cruelty, and of gross injustice.

CHAPTER VIII.

Of Greece, from the peace which followed the battle of Mantinea, to the destruction of Thebes, by Alexander the Macedonian.

SECT. I.—THE institutions of Lycurgus had impressed on his people a completely artificial character. By stimulating some feelings and principles to excess, and almost eradicating others, it had turned every thought and passion to the one pursuit of national aggrandisement. The sagacity of the author was great, and the scheme for awhile attained its end. But man's wisdom is foolishness, when, instead of taking his fellows as their Maker formed them, and endeavouring to favour the happy development of their whole nature by reason and conscience, he undertakes to make them the mere creatures of a system, and determines by an arbi-

trary standard what virtues he will cultivate, and what vices admit. In its best times the system of Lycurgus promoted neither happiness nor goodness. But when foreign command and distant warfare had rendered large communication with strangers unavoidable, the Spartan virtues gave way to foreign vices, but the Spartan vices kept their hold; avarice and corruption were no longer aliens, but pride, cruelty, contempt of mankind were as prevalent as ever. Nay, the latter feeling had a wider field, than when the system was new; for the same disdain and jealousy, with which the early Lacedæmonians were wont to view the wretched Helots, were lavished by the few who latterly monopolized the Spartan name on all their unprivileged fellow-citizens. Hence the internal weakness which, when Lacedæmon was at the highest, enabled a people hitherto undistinguished, to strike her down never more to rise. The greatness of Athens rested on a different footing. Favoured by circumstances and situation, she had early outstripped her neighbours in peaceful arts, in civilization and intelligence. The wisdom of Theseus had laid the foundation of good government, which was built upon by Solon. Less ingenious, less original, less elaborately systematic, the views of Solon were juster and more sober than those of Lycurgus. He did not attempt to new create his people, but simply to moderate their dissensions, restrain their injurious passions, and open a fair field to the growth and exercise of ability and virtue. Good order was so far established that civil disturbance was more rare, and life and property secured, though very imperfectly, yet better than in any other Grecian city; both speech and action were singularly free; the career of ambition was open to all, and its prizes splendid. The fruits of this system were considerable mitigation of party-rancour; humanity of manners greater than was usual in Greece, and extending even to the kinder treatment of slaves; an unparalleled development of the national intellect, displaying itself in every channel both of action and speculation; a patriotic pride and attachment, less bigoted and less founded in contempt of others, but not less warm than that of the Lacedæmonians. These merits rested not, like those of the Lacedæmonians, on unvarying conformity to the institutions which had nursed them, but rather on the habits resulting from free

and regular government, yet not identified with any particular form; and, above all, on this one great safeguard against gross abuse, that the people were accustomed to exercise a legal, peaceable, and effectual control over the administration. The city was twice taken; the first time abandoned and destroyed; the second, enthralled to a tyrannical oligarchy, that purchased the privilege of unlimited oppression by keeping it subject to Lacedæmon; yet, on both occasions, it soon recovered freedom and greatness. When the might of Lacedæmon once was broken, and her hitherto inviolate territory invaded, though the occupation was short, and the city was not taken, she never recovered from the blow. The one state may be compared to an engine of vast power, but limited to a single mode of action, and unable to restore itself when the springs are strained, or its play impeded: the other to a living body, containing an energy which enables it to repair the damage of accident or disease, and adapt its constitution to every change of circumstance. When Thebes had humbled Lacedæmon, it seemed as if its task were done: it had risen to empire by the accidental production of one great man, with some able coadjutors, and it sunk with the master-mind which had raised it. But great men were the constant growth of Athens, and by the ability of its statesmen, and the intelligence and resources of its people, it became again, and long continued, the first city of Greece.

But though Athens had now recovered its importance, in so many changes the character of its government and people had grievously suffered. The most perfect state of the Athenian constitution was probably that which followed the reform of Cleisthenes: all after changes seem to have been for the worse. In every country there are certain advantages of education and habits which tend to foster that general liberality of conduct and feeling, which is emphatically said to mark the character of a gentleman. It is not, however, where excessive privileges are attached to rank and wealth, that this character is chiefly found; for in such states the privileged caste, thinking their superiority enough attested by the accidents of situation and the outward polish of manners, are apt to neglect the more essential ornaments of courtesy, generosity, and candour, or, observing those virtues towards their equals, are yet prone to

treat their prorer countrymen with harshness and injustice. Of Grecian oligarchies by far the best regulated was the Lacedæmonian; and here we have seen the tyranny of the Spartans as a body: but in most others, besides the general oppression of the government, the people suffered without redress, from the rapine, or brutal licentiousness of powerful individuals. The case was different in Athens. The law was equal, and the courts were popularly constituted; and though personal and family interest might sometimes screen an ordinary delinquent, it seldom protected a criminal whose trespass was of a nature to provoke extensive indignation. The only road to greatness was through the favour of the people, by communication with whom all important public business was transacted; and thus controlled by law, by opinion, and by frequent intercourse with all classes, the noble Athenian was prevented from indulging a tyrannical haughtiness. The same causes which checked in him the besetting vices of over-powerful nobilities, were stimulants to exercise the virtues becoming his station; for being unable to enforce deference by terror, and equally unable to decline the jurisdiction of public opinion, and rest his credit on the suffrage of a narrow circle of equals, the only way to make his rank respected was by a suitable superiority in accomplishments and dignity of character. To men thus prepared distinguished birth was a ready introduction to political success; for the Athenians dwelt too fondly on the ancient glories of their country, to be without partiality towards the descendants of their heroes. Hence, long after the highest offices were open to all, we find political leaders mostly men of family, and universally of liberal education. But a change became visible after the death of Pericles. The prevailing character of the poor citizens who lived idle on the bounty of the state has been described, (p. 50,) and these, by their numbers, and frequent attendance, held far too great a weight in the assembly. As pensioners on the public they were eager to promote a large revenue and a large expenditure: as light-minded idlers, they were ever watching for amusement: as coarsely educated persons, they were little solicitous about the refinement of the sources whence that amusement came. For them the very orator was a man like Cleon, who would squeeze the tributaries, lavish the produce in addi-

tional shows and sacrifices, and raise laughter alternately by his railings against the most respectable characters, and by his own detected presumption and folly. It is probably from the prevalence of such as Cleon, that we are to date the formation of an aristocratical party in Athens, completely distinct from the old oligarchical. By the oligarchical party may be understood those who wished for a constitution placing all power in the high-born and wealthy Few; and their last considerable efforts were in the governments of the Four Hundred and the Thirty. By the aristocratical, those are meant who, without hostility to the democratical constitution, wished to keep the administration, as formerly, in men whose influence rested on rank, ability, and character, and who were fitted to advise and lead, instead of flattering and following the people. The earlier struggle was between the rich and the not rich, and the object was to determine the constitution; the latter, between the poor and the not poor, the educated and the uneducated, and the object to settle the administration. The present application of the word aristocratical is not according to the most popular usage, in which it is made nearly synonymous with oligarchical; but it comes nearer to the original meaning of the word, and it also enables us to express a distinction which otherwise we could not convey in a single term.

Of the aristocratical party thus understood the first decided head was the unfortunate Nicias. His opponent Cleon had many successors, but in the latter part of the Peloponnesian war the struggle between the aristocratical interest and the demagogues gave way in great measure to the revived contest between oligarchy and democracy. After the war, when democracy was re-established, it still slept for a considerable time. While Thrasylbulus lived, his merit was so great, his services so recent, and his attachment to the interest of the people so unquestioned, that no permanent opposition to his influence could be maintained. Even after his death the situation of Athens was long so critical as to check the capricious temper of the Many, and incline them to be guided by men of ability and character. Among these, the principal were Conon, Iphicrates, Timotheus, and Chabrias, who were generally employed in the most important commands, and

whose conduct brought to the Athenian government the reputation of liberality and moderation, as well as capacity. Of this we have seen an instance in the measures of Timotheus at Coreyra. The states of Greece were never able to maintain themselves securely in independence, and the maritime and commercial cities especially suffered from the want of a powerful superintending government; for the Ægean sea swarmed with pirates, and not only with individual plunderers, but with the vessels of piratical states. From these the coasts and islands had formerly been guarded by the fleets of Athens, but they had been made to pay so dearly for their safety, that they gladly transferred their obedience to Lacedæmon. Its protection however proving full as oppressive, and apparently less effectual, it was not without satisfaction that they saw the command of the sea again transferred from Lacedæmon to Athens. The power of Athens deterred resistance, and promised protection; and the liberal conduct of its officers invited confidence. The evils of Lacedæmonian supremacy, and of independence, had been more recently felt than those of Athenian empire; which, accordingly, revived with the willing consent of most of its subjects.

But the Athenian people, though schooled by past misfortune and present danger, to temporary good behaviour, were at bottom yet more unfit for dominion than before. In so many revolutions the class of gentlemen had been much diminished, by death, by confiscation, and by gradual impoverishment. Many, who had previously only struggled to preserve the legitimate influence of superior education, and habits formed by exemption from the necessity of constant attention to gain, had now become decided oligarchists, perhaps accomplices in the enormities of the Thirty; while those on whom the proscription of these despots had fallen heaviest, were the men, of all the most valuable in a state like Athens, who united popular manners and principles favourable to equality, with distinguished birth, fortune, breeding, and accomplishment. The number of the poorer citizens had been increased, and the standard of their taste and intellect lowered, by the large admission of slaves and foreigners, after the fall of the tyrants: the remembrance of past sufferings exasperated their indiscriminate jealousy of all who claimed superiority on the ground of talents or

services, or on any but the more arbitrary favour of the people. The field was, therefore, more open than ever for new Cleons to arise, to flatter the people by professions of unlimited devotion, and to rail at those as disaffected, who strove to guide and really to serve it. Awhile such pickthanks were kept in check by the dangerous situation of the commonwealth; but when the fear of Thebes and Lacedæmon was over, they played their part more boldly and successfully. They were eagerly heard when they asked why it was that the fleets brought home no treasure, and why any city was allowed to have ships and commerce that would not pay tribute as of old. Extortion rose higher than ever; persons of no ability or character were often sent out with unlimited powers as commissioners to levy money; complaints from the allies ensuing without end, were disregarded, till, at length, about five years after the battle of Mantinea, the states of Rhodes, Chios, Byzantium; and Cos, the first three among the most powerful allies of Athens, joined in declaring that they would henceforth protect their commerce with their own fleets, and wanting no help from the Athenian navy, would pay no tribute for its support. (B. C. 358.)

This declaration was received by the Athenians with mingled anger and alarm, and war was voted against the rebellious allies: but little had been done in pursuance of this decree, when the people heard the still more alarming news that Eubœa had revolted, the most important foreign dependency of Athens, and the principal source from which its inhabitants were fed. A petty war had been going on in the island, and one of the parties had called in Theban aid: a Bœotian force had been welcomed in Chalcis and Eretria, the two principal towns; and though there was everywhere an Athenian party, the revolvers were clearly the stronger throughout the island. In the general dismay Timotheus came forward: "What!" he said, "When the Thebans are in the islands, do you deliberate? Will you not fill the sea with your ships? Will you not break up the assembly and hurry on board?" The people were roused. Only five days after the Thebans landed in Eubœa the Athenians were there, and within thirty the Thebans capitulated to quit the island. No executions followed, and the affairs of Eubœa were wisely and liberally settled, probably by Timotheus. It was agreed that every town

should acknowledge as formerly the supremacy of Athens, and pay a stated tribute; that each should keep a minister resident in Athens, to represent it in the congress of the allies, and to be its organ of communication with the Athenian assembly; but that for its internal affairs each should preserve its former constitution, and its independent administration. The rejoicing in Athens was scarcely over when a memorable opposition arose from a new quarter.

Macedonia had early been united in a kingdom of considerable extent. Here, as at first in the states of Greece, the chief power had been in the landholders, with the king as their military leader and political head; but both the whole country and the lordships into which it was divided being larger, the proprietors, instead of assembling in cities, had separately ruled their vassals on their own estates. This gave a completely different character to the government and its revolutions. The great men felt their importance more as individuals and less as members of a class; they had less facility of combination, and less disposition to combine; and when they did so, it was rather as allies united to promote each other's several objects of ambition, than as persons bound together by a common interest, and pursuing a common end in the aggrandisement of their order. Hence, amidst much turbulence and many contests for the crown, the form and spirit of the government altered little. In its leading features, the Macedonian government was like that established throughout Europe by the northern conquerors. It is that into which rude nations naturally fall, with more or less of freedom and good order according to the temper of the people; and it is one in which rude nations only can continue. As civilization advances, and large cities are formed, a popular power necessarily arises, in opposition to the great proprietors. In the kingdoms of Europe, the monarch has frequently united with the commons to beat down the excessive power of the nobles; and, when this was accomplished, has again joined the fallen nobility to crush the spirit of freedom which was rising in the people. In England the same game was played, but unsuccessfully; for, by the time when the crown had triumphed over the nobility, the spirit and power of the commons had struck root so deeply, that in the long and perilous struggle.

which ensued, a settlement favourable to popular liberty was effected after many revolutions. The Macedonian kingdom was not ripe for such a series of changes. The people were yet dispersed, and little civilized; the only large trading towns were Grecian colonies, whose inhabitants exercised republican government within their own territories, and held themselves allies rather than countrymen of the Macedonians, and tributaries rather than liege subjects of their king. The manners of the Macedonians continuing to suit their government, the government stood unchanged.

Archelaus, the son of Perdiccas, had much increased the resources of his kingdom, and prepared the way for its advance in civilization; but in the fourteenth year of his reign (B. C. 399), he was assassinated, and the fruits of his able administration perished in seven years of confusion which followed. The crown was bandied from one to another, and most of the claimants perished by assassination; at length Amyntas gained the kingdom, and held it for twenty-four years. During this period, he was once expelled by the Illyrians, a predatory nation on his western border, and restored by the Thessalians; another time, but we know not whether before or after, he was nearly expelled by the Thessalians. He died a year after the battle of Leuctra, leaving three sons, Alexander, Perdiccas, and Philip. Then came another period of war and disputed succession. Alexander was murdered; Perdiccas fell five years after in battle against the Illyrians; and when the reign of Philip began (B. C. 359), the Illyrians commanded the country, the Pæonians were threatening invasion, and two rival claimants were preparing to renew the struggle for the throne, Pausanias by Thracian, Argæus by Athenian support.

The young king (he was only twenty-three years old) was not unequal to the difficulties of his situation. The powers of his mind and the graces of his person were both uncommon; and his natural gifts had been improved to the utmost by an excellent Grecian education, his boyhood having been passed at Thebes, and, as it is said, in the house of Epaminondas. His eloquence was allowed, even by the Athenians, to be both pure and forcible, and his manners singularly polished. Philip vigorously applied himself to reanimate his disheartened

subjects; he called frequent assemblies of the Macedonian people, and roused their courage by eloquent exhortations; he reviewed and exercised his forces; and introduced the Grecian discipline of the phalanx, which had hitherto been unknown among them. Having procured by negotiation a suspension of the other attacks, he went against the Athenian troops, who had marched to set up Argæus. These he defeated, and reduced them to a capitulation, by which they agreed to deliver to him the Macedonian exiles whom they had brought with them, and to retire. To win the favour of Athens was most important; and the temper of Philip as well as his policy was favourable to conciliation. He treated all the Athenian prisoners who had been taken in the battle with the greatest kindness, dismissed them unransomed, recompensed their losses, and provided conveyance for them to Athens. He voluntarily abandoned all claim to Amphipolis, which, since they lost it, had ever been coveted by the Athenians; and he thus obtained peace with Athens*. He then attacked his other enemies, reduced the Pæonians to submission, and compelled the Illyrians to accept of peace on terms dictated by himself. All this he accomplished before he had reigned a year.

We have seen that at the peace between Athens and Lacedæmon, in the tenth year of the Peloponnesian war, it was agreed that Amphipolis should again be subject to Athens, but the Amphipolitans refused submission. Since that time the city had generally continued independent, though the Athenians always claimed dominion over it. In the year before Philip's accession, it was connected with Olynthus, and the Athenian general, Timotheus, failed in an attempt to recover it. Next year, we find it, apparently, under the power of Macedonia. That it should have been forcibly conquered during the interval, either by Philip or his brother, is little likely, considering the then condition of their kingdom. But Amphipolis was divided by hostile factions, severally devoted to Athens, Olynthus, and Macedonia; and it may be that the Macedonian party, supported, perhaps, by timely aid from Philip, had gained the upper hand, and then proceeded to

* It has been supposed, that Philip not only made peace with the Athenians, but entered into alliance with them against Olynthus; but there seems to be no sufficient authority for this belief.

secure it by maintaining a body of his troops in the city. To remove a subject of quarrel with the Athenians, who supported Argæus chiefly in the hope of recovering Amphipolis, Philip declared that city independent. The garrison being withdrawn, the friends of Macedonia could no longer maintain themselves, and the Olynthian party recovering the ascendant, employed the resources of the state in annoying the neighbouring kingdom. In consequence, Philip, after his Illyrian campaign, besieged and took Amphipolis. The conduct of the conqueror was milder than usual in Greece; his most decided opponents only suffered banishment, and the constitution of the commonwealth remained unaltered, while the administration passed into the hands of the Macedonian party. But a quarrel arose between Philip and the Athenians for the sovereignty of Amphipolis. Philip urged that he had fairly won it; that the Athenians, not possessing it, had suffered no injury; and that it was just that he and not the Athenians should enjoy the fruit of his toil and danger. The Athenians contended that Philip had procured their friendship at a critical moment by renouncing all claim to Amphipolis; that the renunciation was illusory, unless made in their favour, and intended to bind him to assist them in its recovery, or, at least, to debar him from impeding them; and that if he had conquered it for any purpose except to restore it to the Athenians, he had made its recovery not only difficult, but, while they continued in friendship with him, impossible. A compromise was attempted. The Macedonian town of Pydna had revolted to the Athenians. The time of this revolt is quite uncertain. If it took place, as Mr. Mitford supposes, during the continuance of friendship between Philip and the Athenians, it was enough to put them entirely in the wrong, and to deprive them of all claim to the restoration of Amphipolis. But there appears to be no evidence which can fix it to that particular period, or exclude the supposition of its having happened before the peace. However, it was secretly proposed that Philip should give up Amphipolis, and receive Pydna in return. The arrangement was not concluded, and finally war ensued, soon after the reduction of Eubœa. (B. C. 358).

The Olynthian confederacy had revived since the decline of Lacedæmon.

Most of its towns were founded on territory originally belonging to Macedonia, and all had, at a former time, been subject to Athens; its further extension could take place only at the expense of one power or the other; and it was only from the navy of Athens or the land force of Macedonia that any present danger could be feared. There was ground enough for jealousy and rivalry with both; and in the approaching contest between Macedonia and Athens, it was uncertain what part Olynthus would take, but certain, that its friendship would be highly valuable to either. Both negotiated with the Olynthians; but Philip obtained their favour by the promise that he would take Potidæa from the Athenians and give it to them. Accordingly, the Olynthian forces proceeded with him against Pydna and Potidæa, both of which were in the possession of the Athenians. Both towns submitted, and Potidæa was added to the Olynthian league; but Philip protected the Athenian garrison, and after treating them with the greatest courtesy, sent them home.

In the next spring, Philip's attention was occupied by the affairs of Thessaly. The Tagus Alexander of Phæræ had recently been assassinated by his wife's brothers, Tisiphonus and Lycophron. Since the settlement of the affairs of Thessaly by Thebes, which has already been related, the Tagus had again succeeded in assuming tyrannical power; and his government was so hated, and Grecian morality so loose, that his murderers became for the moment generally popular, and succeeded unopposed to his office. Their sway, however, though less able, soon grew to be as arbitrary as his. Discontent became general, and the opposing party called in Philip, whose family had ancient connexion in Thessaly; "and he," says the historian, "entering Thessaly, overcame the tyrants, and, restoring freedom to the cities, gave proof of great good will to the Thessalians; wherefore, in his after actions, he had them always as his zealous auxiliaries, and not only he, but Alexander his son." (*Diodorus*.)

Meantime, the Athenians had carried on the war against their revolted allies with little success. The chief commander was generally Chares, a bold and active officer, but of limited capacity, careless, dissolute, and corrupt. Public money and private fortune he squandered alike in his own licentious pleasures,

and in bribery to the most popular orators, and to the poor citizens who subsisted by attending the courts and the assembly; and so strong was the party which by such arts he managed to retain, that he was able, as if in defiance of public opinion, to carry about with him, when in command abroad, a train of musicians, dancers, and harlots. The Athenians now would rarely consent to go on foreign service: those who had property or lucrative concerns would attend to their business at home; those who had not would live at the expense of the state in idleness, or with no employment but sitting in the courts. The Athenian armies were, therefore, principally mercenary, while the wasteful expenditure at home left but little money for their support; and we may easily imagine the degree of obedience and efficiency which could be expected from a hired army of strangers, with supplies at best very insufficient, of which a great part was usually lavished on the private pleasures of the general. Chares made an unsuccessful attack on Chios, in which Chabrias, who was serving under him, fell. On another occasion, Iphicrates and Timotheus were joined with him in command, and when his rashness would have brought on an action by sea under very disadvantageous circumstances, they overruled him. Chares, on his return, accused his colleagues of corruption, and it seems that they were both displaced, and Timotheus was fined so heavily that he was obliged to retire from Athens, and passed his remaining years at Chalcis in Eubœa. Chares remained alone in command, but without the means of paying his soldiers. In this emergency, though Athens was at peace with Persia, Chares accepted the offers of Artabazus, the rebel satrap of Bithynia, and, joining him with all his forces, enabled him to defeat the royal army. By this the present wants of the armament were supplied, but Athens incurred the enmity of Persia; and, hearing that a powerful Phœnician fleet was preparing to assist the revolted allies, the Athenians, in the third year of the war, hastily concluded a peace, resigning all claim to obedience and tribute from Rhodes, Chios, Cos, and Byzantium. (B. C. 355.)

SECT. II.—The institution of the Council of Amphictyons was one of the earliest events in Greek history. It is impossible now to ascertain the date of

its origin; and even the name and nation of its founder have been differently represented by conflicting traditions. One account attributes the institution to Amphictyon, a Thessalian prince; another to Acrisius, a king of Argos. It originally consisted of deputies from twelve Thessalian tribes; and (as it seems, though there is some difficulty and confusion on this point) the modern states of Greece possessed no direct power in it, beyond the vote to which they might happen to be entitled as descendants of some of the original constituents. Thus the Dorians were entitled to representatives in the Council; but in the election of these representatives, several Dorian states concurred on equal terms, Lacedæmon possessing no direct power beyond that which was enjoyed by the insignificant towns of Dorium and Cytinium, in Doris. The number of tribes represented had probably varied; the privilege having been, at different times, taken away from some, and bestowed on others. If the Council was at first an independent Thessalian confederacy, its existence is a remarkable proof of the ascendancy of the Thessalian and Hellenic tribes at the time: but, if the institution be really owing to Acrisius, it can be considered as no more than a political engine, devised by a powerful monarch of the Peninsula, for the purpose of consolidating his influence in the North.

The Council met at Delphi in the spring, and at Anthela, near Thermopylæ (or Pylæ) in the autumn. Originally the meetings were held at the latter place only. The jurisdiction of the Council extended to the national religion, and, in particular to enforcing due reverence to Apollo, the Delphian god, as well as to disputes connected with international law. The deputies took an oath, the substance of which is still preserved in an oration of Æschines. They swore "never to raze any of the Amphictyonic cities, nor to prohibit them from fountains, in war or peace; and, if any one transgress this, to make war upon him, and to raze his cities: and if any one despoil what belongs to the god (the Delphian Apollo), or be privy to or devise aught against that which is in the temple, to punish him with foot, and hand, and voice, and all my might." There was annexed to the oath a heavy curse on those who transgressed it. That part of the oath which

relates to the property laid up in the temple, derived its importance from the circumstance that many princes and states, in early times, deposited rich offerings there, retaining nevertheless some interest in these deposits, and possessing distinct treasuries in the temple.

Each of the tribes sent two deputies, a Hieromnemon and a Pylagoras. The former, whose peculiar office was to attend to the questions connected with religion, was appointed by lot for the whole year. The Pylagoras was chosen for each meeting, and had more unconfined functions. Each of them however voted on all matters supposed to be of general interest. In early times, the tribes sent only a Pylagoras. It is not very easy to reconcile the different accounts we obtain from Greek authors who mention these details incidentally: but it seems most probable that the states composing a single tribe, as for instance the Ionian, sent each their deputies, and that these deputies elected from among themselves the one Ionian Hieromnemon and Pylagoras. It seems certain that none but the Hieromnemon and Pylagoras voted: the other deputies probably joined in the debates. One of the Hieromnemons presided in the Council. The only individual said to have been punished by the Council was Ephialtes the Malian, who guided the Persians over the mountain-pass by which, in Xerxes's invasion, they turned the position of Thermopylæ.

Athens, as a member of the Ionian, and Lacedæmon, as one of the Dorian tribe, were represented in the Council of Amphictyons: but, while they had been paramount, the political power of the Amphictyons had been but small, since those proud commonwealths would not be controlled by the votes of obscure tribes in the North of Greece. But the Thebans, holding, at their rise to empire, a leading influence in Thessaly, appear to have considered that they might direct the Council and make it an useful instrument. Accordingly, they prosecuted Lacedæmon for the seizure of the Cadmeia, and obtained a decree condemning that state to a fine of 500 talents; upwards of 100,000*l.* Had this award been made at the time, its justice could not have been disputed: but, being deferred till the crime was old, when arms had been appealed to in the interval, and signal vengeance taken on the aggressors; and pronounced by a body

which, when the guilt was unpunished and the power of the guilty unbroken, had not ventured even to remonstrate,—it was neither just, wise, nor manly. The Lacedæmonians refusing payment, after a certain time the fine was doubled, according to the Amphictyonic law, and it still remained unpaid.

The Phocians were next attacked. To hold them in obedience had ever been a favourite object with Thebes, and had been warmly resisted by the Phocians, protected sometimes by Athenians, sometimes by Lacedæmon. The Thebans now hoped to obtain a decree of the Amphictyons which might enable them to gratify their ambition under the disguise of religion, and which might deprive the Phocians of those allies who, otherwise, would arm in their cause. The pretext was furnished by a doubtful tradition, that the rich Cirrhæan plain, a most valuable tract in the rugged country of Phocis, had anciently been consecrated by the Amphictyons to the Delphian Apollo, under a heavy curse on whoever should convert it to any human use. The Amphictyons met at Delphi; the direction of the temple was theirs; and they were considered the especial protectors of the worship of the god. But the truth of the consecration was uncertain; the land in question had been used, time out of mind, by the Phocians, and was necessary to the support of the existing population; and, though every Amphictyon was bound to demand the execution of the Amphictyonic law, more especially against impiety, no notice had ever been taken of the alleged profanation. Nevertheless, the Thebans being supported by the Thessalians, inveterate enemies to the Phocians for ages, a decree was passed, importing that the Phocians must immediately cease to use the sacred land, and must pay a heavy fine.

Philomelus was the first among the Phocians by the union of birth, riches, and capacity. He excited his countrymen to vigorous resistance, impeaching the justice of the sentence, and showing that it was beyond their means to comply with its exactions. He further asserted that the superintendence of the temple at Delphi belonged of right to the Phocians, and not to the Amphictyons: and he declared that if they would make him autocrator-general, he would not only repel the present aggression, but vindicate their ancient rights. Being elected to the office he

desired, he immediately went to Lacedæmon, which was interested, as well as Phocis, in opposing the Amphictyons, and he obtained from that state a sum of money which enabled him to raise a powerful body of mercenaries. He made himself master of the city and temple: the Bœotians and Thessalians exclaimed against his impiety; but he proclaimed to all that his purpose was to recover the rights which had been usurped from his countrymen, and that he was resolved scrupulously to respect the sacred treasury. The Athenians, Lacedæmonians, and some other states, declared themselves in favour of the Phocians: the Locrians were the first to act against them, and they were supported by the Bœotians and Thessalians. Philomelus maintained the war with great ability, and most commonly with success, till he fell in a partial defeat of his army, in the second year of the contest.

Philomelus was succeeded by his brother Onomarchus, a man not his inferior in talent or energy, but apparently of a more violent and unscrupulous character. His administration began with the execution of many political adversaries and the confiscation of their goods; on what provocation and with what degree of justice does not appear. The native strength of Phocis was very inadequate to its defence against the Thebans; a mercenary force was necessary, but money was wanting to support it; the scanty resources of Phocis were nearly exhausted, and the Delphian treasury was at hand. Onomarchus yielded to the temptation, and trespassed largely on the sacred treasury for the pay of his mercenaries; and the governments both of Athens and Lacedæmon are accused of having shared in the robbery. He soon carried his arms successfully into Bœotia, and won there the town of Orchomenus, which had been restored since its destruction by the Thebans.

Meanwhile the power of Philip had been increasing. The Thracian, Pæonian, and Illyrian princes had combined to attack him; but Philip, anticipating their purpose, had fallen on them unprepared, and reduced them to submission. An Athenian armament, however, being sent to the Hellespont, Kersobleptes, the Thracian king, again revolted. He was, probably, little friendly either to Athens or Macedonia, but ready, in the weak and divided state of his kingdom, to take part with which-

ever seemed at the moment most able to protect or to annoy. He now ceded to Athens all the towns of the Thracian Chersonese except Cardia; and to secure their acquisition, and at the same time to provide for a number of citizens, the Athenians sent colonists to each.

Methone was the only Macedonian port which now acknowledged the authority of Athens. It was therefore the general refuge for the Athenian party expelled from Pydna, Potidæa, and the other towns recently united to Macedonia and Olynthus; it was also the only town on a wide extent of coast, whose commerce was protected by the Athenian navy from pirates, or even safe from the depredations often committed by the Athenian commanders themselves; and with these advantages it had grown populous, rich, and strong. Relying on its strength, it ventured to provoke the king of Macedonia by receiving and abetting his enemies. Philip besieged the town: the resistance was vigorous, but in the end the place capitulated, and Philip granted a safe conduct for the people to depart, carrying each only the clothes he wore. He then demolished the town, and portioned out the territory to Macedonians. In the course of the siege Philip lost an eye by an arrow shot.

He next proceeded to the assistance of his Thessalian friends against Lycophron, the tyrant of Phæræ. The party which Philip supported was that connected with Thebes, and Lycophron, therefore, naturally looked for aid to the rising power of Phocis. Phayllus, the brother of Onomarchus, being sent to his assistance, was defeated by the Thessalians, under Philip; but Onomarchus himself, being assisted by Athens, entered Thessaly with a force, which, when joined by the adherents of Lycophron, was far superior to that opposed to him. Philip was twice defeated, and reduced to such difficulty that it was only by the greatest exertions of military talent that he could effect his retreat into Macedonia. Onomarchus next invaded Bœotia, where he won a battle, and took the city of Coroneia. Soon after, Philip again entered Thessaly to assist his friends, and Onomarchus to aid Lycophron; and a great battle was fought, in which the Phocians were completely defeated and their general slain. Three thousand were made prisoners, all of whom were executed as temple robbers, and the dead body of Onomarchus was

ignominiously suspended on a cross. Mr. Mitford has discredited these cruelties, merely on the ground that they are not mentioned by any of the contemporary orators hostile to Philip. This, however, only proves that the Phocian cause was now unpopular, and that the most bloody vengeance on the profane and sacrilegious was rather considered a merit than a reproach. Philip was not cruel either by character or by habitual policy; but his humanity could sometimes give way to his convenience, and in the present case the motives are obvious. The execution of the prisoners would be loudly called for by the Thessalians of his army, who hated the Phocians as ancient enemies, as supporters of their tyrants, and as perpetrators of sacrilege; and, while it gratified his warmest adherents, it would give to the Greeks in general a testimony of his zeal for religion, and incline them to ascribe to piety rather than ambition his further interference in the affairs of Phocis. Lycophron surrendered Phæræ; the influence of Philip prevailed through all Thessaly; his fame and popularity as the avenger of the gods became general in Greece; and to both these results there is reason to fear that the massacre of the Phocian prisoners much contributed. (B. C. 352.)

Phayllus succeeded his brother Onomarchus; and dying of disease within a year, was followed in his office by Phalæcus, the son of Onomarchus: but both parties were much exhausted, and the war went on languidly and indecisively. A diversion was occasioned for a while by a contest in Peloponnesus. Megalopolis, originally founded by a party hostile to Lacedæmon, with the view of uniting all Arcadia against her, had ever since continued her enemy, and had been fitted by situation for a curb on her exertions, and a rampart of protection to Messenia. The internal politics of this commonwealth may be illustrated by referring to some transactions already related of Mantinea (p. 98 and 107). The city had been formed by collecting the inhabitants from many scattered villages, and uniting them in a democratical government; a measure highly gratifying to the multitude, but displeasing to the landholders, who had been accustomed to hold dominion over them, when scattered. The landholders looked to Lacedæmon for restoration to their country-houses and their ancient ascendancy: the Many were devoted to

Thebes, inveterately jealous of Lacedæmon, and peculiarly bound by common interests and dangers to their neighbours of Messenia. The dispersion of the Megalopolitans was a necessary step to the reduction of Messenia, and the Lacedæmonians were the more encouraged to the attempt by the knowledge that they had a party among the Megalopolitans. To procure the support of Athens to their design, they proposed to combine with it some other measures for the humiliation of Thebes, mostly just and beneficial. Such were the restoration of Thespizæ and Plataea, and the restitution of Oropus to Athens. The Athenians, allied with Lacedæmon and at war with Thebes, made no active opposition to the attempt; but they neither assisted it nor wished it success. The Lacedæmonians were aided by the Phocians, the Megalopolitans by the Thebans, Argians, and Messenians, and an active campaign ensued, but with no decisive result.

New troubles had arisen in Eubœa, and a Macedonian party was gaining ascendancy in the island. An Athenian force was sent thither under Phocion, a man remarkable in a corrupt age for singular integrity. He had risen to eminence as an officer under Chabrias, who, on one occasion, commissioned him to collect the tribute from the allies, and placed twenty triremes under his orders for that purpose. Phocion objected: "To meet enemies," he said, "the force was insufficient; to visit friends, it was needlessly great." Chabrias allowed him to go with a single trireme. Such visits were dreaded by the subject states; for, besides the tribute, the Athenian commanders commonly exacted large presents both for themselves and their crews, who, if not gratified with a share in the spoil, would, on returning home, be formidable to their commanders as witnesses against them, and very possibly as judges. Phocion, probably, took little or nothing for himself. Assured of his own innocence, he had the less need to indulge the rapacity of his men; and, even if gratified to the full, the appetite of a single crew was more easily glutted than that of twenty. Altogether, he made his mission unusually acceptable, and numerous vessels of the allies voluntarily attended him home, bearing the full amount of tribute. He had since come forward as a speaker in the assembly; though not eloquent, he

was a singularly ready and acute debater, and his opinion carried weight from the known soundness of his judgment and the excellence of his character. On the present occasion, the favour of the higher classes towards Phocion was proved by their willingness to promote the success of his expedition, as well by money as by personal service. Many freely engaged themselves as soldiers under him, both in the cavalry, which was their own peculiar province, and also in the heavy-armed foot; and now, for the first time within memory, the expense of equipping ships of war was voluntarily undertaken by individuals. A battle was won, and Eubœa was, for the present time, secured to Athens.

Since his successes in Thessaly, Philip had been employed, partly in repressing the turbulence of the surrounding barbarians, and bringing them completely under his dominion, partly in raising a naval force. In the latter effort he had succeeded so far, that he plundered the islands Imbros and Lemnos, the constant possessions of Athens, carried off a rich fleet of merchant vessels from Geræstus in Eubœa, and even insulted the coast of Attica itself. The Olynthians, now becoming jealous of Philip's growing greatness, made a separate peace with Athens, in violation of their alliance with Macedonia. Philip made war on them, and they naturally sought the alliance of Athens.

In ancient times, the first minister of Athens had commonly been the chief commander of her armies. Such were Themistocles, Cimon, Pericles, Nicias, Alcibiades, Thrasybulus. But now, though war continued to be almost as constant as before, it was not so universal an occupation. Besides, in the course of the changes which we have been contemplating, the influence of personal consideration was much lessened, and that of oratory increased; and hence a class of men arose who devoted all their attention to the cultivation of eloquence and the art of managing the people, and who, being constantly present, could improve every opportunity, when the generals were on foreign service. The first specimen which we have seen of this class was Cleon; and in his time the system was so imperfectly established, that he thought his eminence incomplete till he had attained to military command, for which he was notoriously unfit. But, in after times, the

same line was taken by men of high ability and character, such as Callistratus, whom Iphicrates requested to have for his colleague in command, that he might be assisted and supported by his eloquence and political capacity. Hence the connection described by Demosthenes, when there was "an orator commander-in-chief, and a general under him;" that is, an orator as political leader, directing the enterprise to be undertaken and the officer to be employed, defending the conduct of his military friends, and providing supplies for the armament; while the general executed whatever project the assembly was persuaded to command. And hence it was necessary that every party should include both orators and military men; for even when a commander was, like Phocion, an able speaker, he still wanted friends to support him in his absence.

Demosthenes, who has been almost universally allowed to be the greatest master of eloquence in ancient or modern times, was now a young man rising to eminence as a professional orator. In early youth he had inherited from his father a considerable fortune, but this he rapidly dissipated, and then, at the age of twenty-five, betook himself to a profession by which many had risen to wealth and importance in Athens, that of writing speeches for suitors in the courts of judicature. At the time now in question, he had become a leading speaker in the assembly, and had embarked himself in the party most hostile to Philip; and, in spite of a disadvantageous voice and person, and an unamiable temper, he became, by the force of industry and ability, the first man of Athens, her most consummate orator, and most prevailing political leader. When the Olynthian ambassadors came, he was foremost in urging the people to accept their alliance, and to assist them with promptitude and vigour. Large succours were voted, and embassies were sent to the different states of Peloponnesus to excite their fears of Philip's ambition, and to rouse them to resistance. These embassies were generally unsuccessful; and, though some troops were sent from Athens to Olynthus, it was long before the body of the succours voted arrived there. Meantime, Philip had taken by force some towns of the Olynthian confederacy, received the submission of others, and laid siege to Olynthus itself. The Olyn-

thians now expressed a wish to treat; but Philip declared that either they must quit Olynthus or he Macedonia. If the Olynthians had been united, their force was amply sufficient for defence; but there was in the town a strong Macedonian party, as was evidenced by five hundred horse, more than half the effective cavalry of the state, deserting in a body. After some unsuccessful assaults, Philip was admitted into the town by Euthycrates and Lasthenes, the leading men of the Macedonian party. Demosthenes imputes their conduct to bribery; but an opposition more friendly to a foreign enemy than to their ruling fellow-citizens was no new thing in Grecian history; and as there is much appearance that such a faction existed in Olynthus, it is probably to party enmity that the conduct of Euthycrates and Lasthenes is to be ascribed; though, perhaps, as known friends of Philip, they may have previously received from him favours which might give a pretext for the accusation of Demosthenes. Philip destroyed the town, and sold the greater part of the people into slavery.

The annihilation of a state commanding the greater part of the Macedonian coast, and the acquisition of its rich peninsulas and commercial towns, formed a great addition to the wealth, strength, and security of the conqueror. He was now at liberty to proceed either against the Athenian dependencies in Thrace, or against Eubœa, where fresh troubles had broken out. Alarm was great in Athens. But Philip, with all his ambition, had much of prudence in his character, and something even of moderation: He had already extended his dominion far beyond its ancient limits; and he was at present less anxious to push it further than to consolidate it, so that it should not fall to pieces on his death, or on any accidental reverse. He wished to civilize his old subjects, to accustom his new to obedience and attachment; and to these objects peace would be highly conducive. There was a decree of the Athenians forbidding the reception of any herald or ambassador from Philip; but he nevertheless found means to intimate that he was willing to make peace, and the offensive decree was reversed. It should seem that this took place rather before the fall of Olynthus, but Philip's conduct was not altered by that event. The conclusion of peace was, however,

delayed by new hopes arising to the Athenian war party from affairs in Phocis.

By the long maintenance of an overwhelming force of mercenaries, which was entirely at their command, the Phocian generals had attained a power almost unlimited, inasmuch that the contemporary orators frequently style them tyrants. But the sacred treasury was now beginning to fail, and Phalæcus being unable to keep up to their former standard the zeal and number of his soldiers, an opposing party reared its head. Phalæcus was displaced and prosecuted for sacrilege. The new administration sent ministers to Athens, and as an inducement to support them, they offered the possession of three small Phocian towns, valuable, not from their revenues but from their situation, which commanded the pass of Thermopylæ, the readiest entrance for Philip into Southern Greece. The Athenian government had been allied with the Phocian under Phalæcus; but Phalæcus had been also connected with Lacedæmon, while the new rulers, if they stood, would be solely dependent on Athens. Besides, if Athens took the part of Phalæcus, the administration might throw itself on the mercy of Philip or Thebes; whereas, if the offers made were accepted, the resources of Phocis would be at the disposal of Athens, and Thermopylæ commanded by its troops. A force was sent to occupy the towns; but in the mean time Phalæcus recovered the ascendancy. Not unreasonably offended at the defection of his ally, he refused to give up the towns, and declared war against Athens. This news ended the hopes of the war party in Athens, and all concurred in voting an embassy to treat of peace with Philip.

The embassy was sent, consisting of ten persons, all distinguished either by rank or talent, one of whom was Demosthenes. It brought back a very favourable report of Philip's disposition towards peace. A negotiation would naturally tend to throw the administration into the hands of those who had originally been adverse to the war: but these were chiefly led by men of moderate character; while Phocion, the most eminent of them all, was as rigid and unbending, as Demosthenes was pliant and unscrupulous; and hereon Demosthenes founded his plan for taking the business out of the hands

of his opponents, and making his own party the peace-makers. Accordingly he now urged on the pacification with the greatest eagerness; and magnifying to the utmost the danger of the state, he hastened the negotiation in a manner on which the timid among his adversaries would not venture, and to which the rigid would not stoop. Ambassadors had previously been sent to the allies of Athens, to invite a congress to deliberate on the conduct of war or negotiation with Philip; and, before the return of the ambassadors, or the arrival of the deputies from the allies, Demosthenes obtained a vote, appointing a day when the Athenian people were separately to debate on the terms of peace. The Synedri, or resident deputies of the subject allies, met to consider the matter: they voted a resolution to be offered to the Athenian assembly; which strongly marks the submission to which they were reduced, and, in the present case, the sense of injury which they dared not more plainly express. "Since," it said, "the Athenian people are deliberating on a peace with Philip, but the ambassadors are not returned whom they sent through Greece to exhort the cities concerning the freedom of the Greeks,—it is resolved by the allies, that, when the ambassadors shall be returned, and shall have made their report to the Athenians and their allies, and two assemblies shall have been held according to the laws, in which the Athenians may deliberate about the peace,—whatever the Athenian people may decree shall be as the common decree of the allies." The Macedonian ambassadors, however, arrived, and without waiting for the return of the ministers from the cities, peace was made with Philip, and not only peace, but alliance. The allies of both parties were included in the treaty, each by name: but neither Phocis nor Lacedæmon were mentioned, nor Kersobleptes, the king of Thrace, who had been led, or forced, into war with Philip entirely by Athens. The last omission the Athenians afterwards wished, as well they might, to remedy; but the treaty was already concluded, and Philip had immediately overrun the kingdom of Kersobleptes, and reduced that prince to entire submission.

An Athenian embassy was sent to take Philip's oath to the treaty which had been concluded. Its return was followed by a letter from Philip, invit-

ing the Athenian people as Amphictyons, and as his allies, to join with his other allies, and the whole Amphictyonic league, in putting an end to the Phocian war, and restoring the temple at Delphi to the Amphictyons. The Athenians did not comply, and Philip, advancing through the pass of Thermopylæ with a powerful army of Macedonians and Thessalians, and being joined by the Theban forces, prepared to act against the Phocians. They submitted without resistance; the principal families stipulating for leave to emigrate with their effects. The like permission seems to have been obtained for the entire people of the Bœotian towns, which had taken part with the Phocians. The middle and lower classes of the Phocians surrendered their towns to Philip, trusting that he would save them from the vengeance of the Thebans and Thessalians. To determine their fate, Philip summoned the Amphictyons at Thermopylæ, inviting the attendance of ministers from every state of Greece. The congress met: the Thebans and Thessalians were urgent for severity; but even their animosity was surpassed by the savage mountaineers of Ceta, who insisted that the full punishment allotted to sacrilege by the Amphictyonic law should be inflicted; and that the whole Phocian people should be precipitated from the cliffs of the sacred mountain. A more moderate sentence was approved by the majority. All the Amphictyonic rights of the Phocians were declared to be forfeited: it was directed that the three principal cities of Phocis should be dismantled, and the other towns destroyed; that the people should live in villages, not less than a furlong one from another; and none containing more than fifty houses; that they should surrender all heavy armour and horses, and possess none till the debt to the god were paid; for the liquidation of which a yearly rent of sixty talents, about 12,000*l.*, was assessed on the Phocian lands. Thus ended, in its tenth year, what was called the Sacred War against the Phocians. The right of suffrage in the Council of Amphictyons, which the Phocians had possessed, was given to Macedonia. (B. C. 346.)

SECT. III.—The result of the Sacred War was generally displeasing to the Athenians, and each party made it a matter of heavy charge against its opponents. The most eloquent speaker of the party adverse to Demosthenes, was *Æs-*

chines, who had gone, as well as Demosthenes himself, on both the embassies to Macedonia. Demosthenes declared that Æschines had sold himself to Philip, and had persuaded the Athenians that Philip would settle the affairs of Phocis to their wish, and not to that of the Thebans; whereby the Athenians had been prevented from interfering to save the Phocians. Æschines, in his turn, declared that Demosthenes had been corrupted by the Thebans, and that he, not Æschines, had caused the ruin of the Phocians; that Philip had wished to grant to the Phocians more favourable terms, and in order that he might be able to do so, had invited the Athenians to join the Amphictyonic army; that Demosthenes had prevented the Athenians from complying, and that the Boeotians and Thessalians in Philip's army far outnumbered the Macedonians, and the Athenians not being there to balance them, Philip was obliged to comply much further than he wished with the Thebans and Thessalians. The merits of the dispute seem very doubtful: the accusations of corruption, on both sides, are probably false, for such charges were among the commonest weapons of party warfare in Athens; and, shameful as must have been the state of political morality, when corrupt subserviency to a foreign power was so ordinary an imputation, it is not to be fixed on an individual without better warrant than an adversary's word. On the other points, the balance of probability may seem to be rather in favour of Æschines: for, by acting as the allies of Philip, the Athenians might, perhaps, have moderated the proceedings of the confederacy, while, by opposition in arms, they would have forfeited a peace which they had sacrificed much to obtain, and that with little hope of success, since the then ruling Phocians were more inclined to trust Philip than them.

By Philip's success in the Phocian war, and by the reputed holiness of the cause wherein he had been engaged, his fame and popularity spread wide in Greece. The Thebans especially were loud in his praise, and so were their constant allies, the democratical commonwealths of Peloponnesus. These cities, especially Argos, Megalopolis, and Messene, ever needed protection against their dangerous neighbour Lacedæmon: they had preferred the alliance of Thebes to that of Athens; and now, when Theban energy

was failing, there arose in friendship with Thebes a protector more effectual by his power and activity, and less dangerous, as was thought, to their independence, both on account of his liberality, and the remoteness of his situation. The Theban everywhere became the Macedonian party; and Macedonia, already recognised as a member of the Grecian nation by its admission among the Amphictyons, seemed likely to attain a similar supremacy to that which had at different times been exercised by Lacedæmon, Athens, and Thebes.

It would appear that, since the conclusion of peace, the party of Demosthenes had engaged in intrigues, for which they apprehended Philip's vengeance on their country. If this impression was well founded, prompt precautions would be necessary, for the Thebans and Thessalians were sure to second him: if not, at least the power of the war party would be promoted by exciting jealousy of Philip. Immediately on hearing that the Phocian towns had surrendered to Philip, a vote of the people was obtained, commanding all Athenians in the country to withdraw their families into the fortified towns. No hostile act was done by Philip, probably none had been meditated; but there may, perhaps, have been grounds for apprehension, and at any rate the party purpose of the movers was answered in the alarm excited. Soon afterwards ministers came to Athens from Philip, to announce his admission as an Amphictyon, and to request his acknowledgment as such by the Athenians. Demosthenes, professing the greatest enmity to Philip, and declaring that he disapproved the peace which had been concluded, still dissuaded the renouncing it on the present question. The more violent orators prevailed, and it was voted that the Athenian people did not acknowledge Philip as an Amphictyon. Nevertheless, peace lasted for a considerable period, during which intrigue was busy throughout Greece between the Macedonian party and the Athenian. The Athenians sent ambassadors into Peloponnesus, to rouse into jealousy of Philip the states inclined to his alliance; and Philip, intriguing more successfully in Eubœa, drew most of the island from the Athenian interest to his own; yet, before war broke out, the ascendancy of Athens was again established, and the Macedonian party suppressed. On either side it was

not friendship, but suspended hostility ; and if Athens first decidedly broke the treaty, it must be remembered that in the secrecy of Philip's negotiations, and the publicity of all important transactions among the Athenians, it was easy for him, and very difficult for them, to violate the substance of the covenant, without expressly contravening its terms. Philip's conduct was regular in form, and that of Athens most blameably irregular ; their comparative merits, in spirit and principle, it is more difficult to estimate. One point is very remarkable in the conduct of the Athenians ; — the extravagant notion which they entertained, that they were at liberty to recal any concession which they deemed unadvised, and that the king of Macedonia was bound to consent, if he called himself their friend.

Above three years after the conclusion of peace, when Philip had been ten months warring in the northern wilds of Thrace, and on the borders of Scythia, those events took place which led to renewed hostility with Athens. Byzantium, which had been included in the treaty as an ally of Philip, we now find at war with him, and supported by Athens. Perinthus and Selymbria, towns closely connected with Byzantium, were in the same situation. We have little means of judging who was chiefly to blame, but ill faith was imputed by both parties : by the Athenians to Philip as attacking their allies ; by Philip to the Athenians as supporting his enemies. Here the blame is doubtful ; in the next instance it belongs decidedly to Athens. An Athenian colony was sent into the Chersonese under Diopceithes, a zealot in the war party, and to him was given the Thracian command by land and sea. A fleet was readily voted to accompany him, but for the land force the people would neither serve nor pay. Diopceithes offered to raise and pay a sufficient body of mercenaries ; his offer was accepted ; he employed his troops against some towns belonging to Philip, and supported them by piracy, and by levying contributions from the allies, both of Macedonia and of Athens. Complaints poured in, but Demosthenes defended him. The injuries done to Macedonia, the orator justified on the ground that Philip, having previously committed aggressions, was to be treated as an enemy ; a false and pernicious principle, since breaches of treaty, even if undisputed, are to be punished by declared hostility and by

public exposure, not by other acts of ill faith, which, however excused under pretence of retaliation, are really nothing better than fresh offences of a similar kind. The wrongs of the allies he excused by the plea of necessity. " I must speak out," he then proceeded, " and I pledge myself that every commander who sails from your harbours takes money from the Chians, the Erythraeans, and from whomsoever he can, of those, I mean, who inhabit Asia. And this is not given for nothing, but that their merchant vessels may be protected, and not plundered. They call it, however, a gift of friendship." Demosthenes prevailed : Diopceithes was continued in command, and Callias, the commander on the Thessalian coast, was encouraged to conduct yet more violent. He attacked and took the cities on the Pagasæan bay, allies of Philip, and named as such in the treaty : he stopped all vessels bound for Macedonia, and condemning the crews as enemies to Athens, sold them for slaves. Induced by these and other provocations, Philip, in a letter to the Athenians, set forth his complaints, and declared that he would redress them by arms. The style of this document is temperate and manly, and its statements are confirmed by the fact that Demosthenes declined to answer them. It proves that the treaty had been repeatedly and grossly violated by Athens, and that whatever grounds of jealousy may have arisen from other parts of Philip's conduct, his behaviour in his direct intercourse with Athens had been moderate and conciliatory ; that he had offered to refer all disputed points to arbitration, and had yielded some things which could not in strictness have been required. Nevertheless the adverse orators persuaded the people not only that Philip was their determined enemy, but that he had broken the treaty so far as to justify them in totally disregarding it. The war began, and Demosthenes became the effective chief minister of Athens ; apparently the first who ever held that eminence entirely without military command.

The confederacy against Philip was a powerful one. The Chians, Rhodians, and Coans were strong at sea, and closely connected with Byzantium : the power of Athens was singly most formidable ; and supplies abounded, for the Athenians had secured the alliance of Persia. Their armament in the Hellespont was at first commanded by Chares, and under

him it sustained a defeat; but Phocion superseding him, restored the face of affairs by his ability against the enemy, and his justice and liberality towards the allies. The system of operations, ably projected by Demosthenes, was as ably carried into effect by Phocion, and the success of his measures was materially facilitated by the weight of his character: Philip, abandoning the hope of reducing the adverse towns of the Thracian shore, came to a composition with his enemies, and another interval of peace ensued.

Callias and Taurosthenes of Chalcis were brothers, and the leaders of a party which desired to unite the cities of Eubœa under a general government. In the former troubles of the island, they had rested on the support of Thebes or Macedonia; but, during the last, they had quarrelled with Philip, and it was therefore necessary to resort to Athens. Their proposals were made through Demosthenes, with whom Callias had before been connected; and so important did the willing alliance of Eubœa seem to him, that he obtained the consent of the people to a decree resigning all claims of dominion and tribute from the island. A body of Athenians, under Phocion, crossing the strait, expelled all Theban and Macedonian troops, and gave ascendancy to the friends of Callias; and this revolution restoring the influence of Athens in Eubœa took place shortly before the breaking out of war between Philip and Byzantium. When the Hellespontine war was over, Callias was still in power, and Demosthenes trusted much to him in the attempt which he now made to form a new league against Philip. The Byzantines and Perinthians testified to Athens the warmest gratitude for its late assistance; Acarnania was friendly; and Demosthenes himself became ambassador to confirm the Athenian interest there, and to establish it in Peloponnesus. Returning before the business was completed, he left its further prosecution to Callias, who came to Athens, and was introduced by Demosthenes to the people, to report his success. He had effected, he said, the desired alliance: a powerful armament would be raised from Eubœa, Acarnania, and Peloponnesus; the chief command would be yielded to the Athenians; and a congress of deputies would meet at Athens. These promises, however, failed, from what cause is uncertain: no war ensued, and the year passed quietly away.

Amphissa, the chief town of the Ozolian Locrians, overlooked the Cirrhæan plain, and their territory bordered on the "accursed land," for using which the Phocians had so been punished. In the Phocian war, the Ozolian Locrians, as being the most zealous allies of Thebes, had been the greatest sufferers; and trusting to the influence of Thebes among the Amphictyons, they hoped for the allowance of that body, while they remunerated themselves by silently occupying the accursed land. No notice was taken, till, emboldened by connivance, they even fortified the devoted Cirrhæan port, and exacted duties from all passengers to Delphi. It happened that Æschines, being chosen as an Amphictyonic representative of Athens, was provoked by some proceedings of the Amphissian deputies against his country: he called on the council to judge and punish the profanation of the Amphissians; and a decree was passed requiring that all grown up Delphians, free or slaves, should meet on the morrow at daybreak, with spades and mattocks; that all members of the council should attend, or, if any failed, their state should be excluded from the temple. The decree was obeyed. The multitude assembled, and descending into the plain, under the command of the Amphictyons, destroyed the port, burnt the houses, and returned. The Amphissians met in arms, too late for prevention, but not too late for revenge. The unarmed Delphians fled, but many were wounded, and some members of the council were seized and stripped. Next day the Amphictyons met, and resolved on those regular measures which ought to have preceded their late hasty and violent act. It was decreed that before their next regular sitting, an extraordinary meeting should be held, when a decree should be proposed for punishing the offences of the Amphissians against the god and the council.

Demosthenes had already formed connexion with a party in Thebes, who desired to withdraw their country from its alliance with Philip; and there is reason to think that the Amphissians had been encouraged to resistance by hopes of support not only from Thebes, but from the party of Demosthenes in Athens. Accordingly, he prevailed on the Athenians to decline all part in the proceedings of the Amphictyons, and neither Athenian nor Theban deputies attended the meeting. War was declared, and an army collected, by the Amphic-

tyons; the Amphissians were brought to submission; a fine was imposed on the state, some leading men were banished, and some exiles restored. But as soon as the army was withdrawn, the Amphissians refused to pay the fine, recalled those whom the Amphictyons had banished, and banished those whom they had recalled. War was again decreed against them, but troops were not duly furnished by the states, and nothing was effected. The Amphissians were weak, but it was known that they would not be unsupported; and at the next Amphictyonic meeting it was resolved to give vigour and union to the league, by inviting Philip to become its general.

This measure sanctioning a fresh interference of Philip in Greece, and ensuring him the support of powerful allies, made greater activity necessary to his opposers; and Demosthenes made use of every engine for stimulating the people and intimidating his adversaries. One part of his conduct strikingly shows the oppression which sometimes may be exercised among a people, however generally zealous for liberty, who do not duly feel the paramount importance of regular proceeding and the sacredness of law. Antiphon, an Athenian exile, had returned illegally, and was living secretly in Peiræus; and Demosthenes, unable to procure such precise information of his residence as might enable the officers of justice to apprehend him, assumed authority to search private houses, discovered the delinquent, and carried him into the city. The fact of his illegal return made him liable to death, but would not warrant the arbitrary conduct of Demosthenes in arresting him. Demosthenes accused him of having plotted with Philip to burn the arsenal: such charges were commonly received far too readily in Athens, and if this were now believed, the importance of the arrest might be expected to excuse its irregularity. From the silence of Demosthenes as to the evidence for this accusation, we may probably presume that it was but weakly supported; and Æschines inveighing bitterly against the illegal conduct of his rival, determined the assembly to release the prisoner. But the danger of Antiphon was not yet over; the council of Areiopagus sometimes exercised the privilege of reversing the decisions of the people, and though it is improbable that such a reversal could be maintained if the people were determined to support

their act, it might be risked in the present instance, when the people were divided and the majority accustomed to follow the lead of Demosthenes. His influence in the Areiopagus was complete, and Antiphon, though already dismissed, was by order of that court, in flagrant violation of all law and justice, again arrested, tortured, and executed.

While Demosthenes was thus overbearing all opposition at home, he was negotiating abroad with great ability and unwearied perseverance to raise a powerful league against Philip. His success would chiefly depend on the disposition of Thebes, where a strong party existed adverse to that which had maintained the state in alliance with Macedonia. Demosthenes went himself to Thebes, and negotiated with such effect that when Philip, as the Amphictyonic general, sent a requisition to the Thebans to join his army, they refused compliance. Yet shortly after the Macedonian party again prevailed so far, that a body of Theban troops was sent to the confederate army. The Amphissians were reinforced from Athens with 10,000 mercenaries; but notwithstanding, they were soon reduced to submission.

The moment was critical. Philip was in the heart of Greece, in command of the Amphictyonic army, which if he wished to direct against Athens, the support given by that state to the Amphissians furnished a ground for requiring it to follow him as in an Amphictyonic quarrel, and not a particular one of his own. Peace yet existed, nominally, between Macedonia and Athens; but it had been ill observed, and pretexts for a rupture abounded: the unfriendly disposition was certain on the part of Athens, and on that of Philip highly probable. According to the result of the present crisis Macedonia or Athens would be mistress of Greece: if Thebes were warm in favour of Philip, Athens probably could not resist him; if Thebes took part with Athens, he might himself be in no small jeopardy. Both, therefore, earnestly courted Thebes; and each being there supported by a powerful faction, the contest was violent and doubtful.

After much wavering, the Thebans solemnly renewed the alliance with Philip, which they had nearly broken off; but the Athenian party, though defeated, was not effectually suppressed, when Philip took a step which hastened

the crisis. He fortified the Phocian town of Elateia, commanding the passes from Delphi, where he was stationed, both towards Thermopylæ and into Bœotia. For this his motives might be various. If the Thebans turned against him, and he found himself unsafe in Phocis, it secured his retreat into Thesaly: if he wished to fall on Attica, and the Thebans opposed him, it gave a ready entrance into Bœotia; and Thebes, while doubtful, might perhaps be deterred from declaring against him by his commanding position. Whatever were his purpose, on hearing that he had occupied Elateia, alarm rose as high in Athens as if he were in march against the city. It was evening when the news was brought to the Prytanes: they immediately rose. Some went to the generals, and ordered the trumpets to sound; others hastened to clear the market-place, and set fire to the booths as the speediest method of removal. The whole city was in tumult and consternation during the night. When day broke the council met, but before they could prepare a decree, the people were assembled and clamorous for their appearance. They came in without having determined on any measure to propose for the adoption of the assembly. The Prytanes made their report: the crier repeatedly proclaimed that any Athenian might speak. Still none came forward. At length Demosthenes arose and proposed a decree severely arraiging Philip, and ordering that ambassadors should straightway be sent to Thebes to offer strict alliance and friendship. The decree was carried. It is a circumstance which strongly marks the intimacy of the union proposed, that intermarriage, rarely allowed between the citizens of different states, was to be permitted between those of Thebes and Athens.

The Athenian ambassadors, of whom Demosthenes was the chief, were received by the assembled Theban people, and, at the same time, those of Philip were heard in reply. Python, the leader of the latter embassy, was no common orator, but the eloquence of Demosthenes and the largeness of his offers prevailed. The Athenians had long been protectors of the Bœotian towns claiming independence, particularly Platæa and Thespiæ. These were given up; and it was agreed that Thebes should have an equal vote in directing the measures of the confederacy, as well by sea as by land; that Athens should

bear the whole expense of the fleet and two thirds of that of the army; that a Theban general should command in chief; that all political measures should be concerted with the Bœotarchs in the Cadmeia. The eloquence of Demosthenes was powerful with the multitude, and his political ability and commanding influence in Athens were necessary to the leaders who had pledged themselves to stand or fall with their new ally. He quickly attained great power in Thebes, and became the channel of communication between the two states and the effective director of both.

An Athenian army was sent into Bœotia, and being joined by the forces of Thebes, the combined host encamped itself at Chaeroneia, a few miles distant from Elateia. A few skirmishes took place; but winter, as was usual in Greece, prevented decisive action. Meantime Philip negotiated for peace, both with Thebes and Athens. At Athens his overtures were principally supported by Phocion; but they were rejected by the people, full of ambitious hopes, and bold in the knowledge that Bœotia lay between them and the enemy, and that Thebes would bear the first brunt of the attack. Thus far Demosthenes was triumphant; but his task was more difficult at Thebes, where the danger was nearer, and the party stronger that wished for peace. A decree that the proposals of Philip should be considered had already passed the assembly, when Demosthenes hastened to Thebes. The people were summoned, and he addressed them; he praised to the utmost those who adhered to the resolution of war, and inveighed against all who spoke in favour of Philip, as corrupt and traitors. When he found that the passions of the multitude were sufficiently excited, he proceeded even to threats, and exclaimed, that if any should dare to speak of peace with Philip, he would himself seize him by the hair, and drag him as a traitor to prison. That such a sally should have been ventured, and that it should have been unresented, and even successful, strongly shows both the ascendancy which Demosthenes had attained in Thebes, and the power of his eloquence in stirring the passions of his audience. But his objects were not yet secured; the Bœotarchs were divided, and at length they resolved again to lay the proposals of Philip before the people. The assembly was called; Demosthenes addressed it, and after arraiging the

Bœotarchs as traitors to Greece, he concluded with declaring that if the Thebans, deceived by their leaders, so shrunk from the common cause, he would return immediately to Athens, and move for an embassy to Thebes, to ask a passage through Bœotia for the Athenian army, which would then go alone against the common enemy. The Bœotarchs gave way, and war was finally resolved on. This, the greatest triumph perhaps of the orator and of his political system, ended certainly in the most signal discomfiture of both.

The Athenian and Theban army had been joined during the winter by troops from the allies of Athens, Eubœa, Megara, Corinth, Achaia, Corcyra, Leucas, and Acarnania. The aggregate force appears to have considerably exceeded that of Philip; but the advantage was balanced by the latter being united under one able commander. The Athenian generals were Chares and Lysicles; the names of the Theban commanders have not been preserved. The battle took place near Charoneia; it was hard fought and decisive, and the victory of Philip complete. (B.C. 338.)

The news filled Athens with dismay. Nothing less was now expected than the advance of the conqueror into Attica, the ravage of the country, perhaps the siege of the city. The resources which had formerly enabled Athens to disregard the devastation of her territory, were lost by the revolt of some allies, and her own impolitic relinquishment of authority over others. The time was past when every Athenian was a soldier; for the wars of Athens had lately been carried on by mercenary troops, while the citizens had been idling at home, incurring the guilt of warfare, without participating in its dangers or its glories, such as they are. From violent fear to violent resentment was an easy passage, and the late advisers of war might not unreasonably expect the severest treatment from the people, whether in anger at the situation into which their counsels had brought the city, or as an intended peace-offering to the king of Macedonia, whom they had so vehemently opposed. Demosthenes had borne arms in the battle, and for speedier flight had thrown away his shield,—an action deemed the most disgraceful proof of cowardice. The sense of his political failure, and his military dishonour, deterred him from showing himself in the first burst of popular indignation,

and he procured a mission, which withdrew him a while from Athens. No proceedings were immediately commenced against the leaders of the war party, and they profited by the moderation of their adversaries to divert the popular fury from themselves against the generals. Lysicles was the victim chosen, probably because he was not, like Chares, highly popular or powerful. He was accused by an orator of the war party, condemned, and executed. The rage of the multitude was satisfied, and never doubting that their vengeance had fallen on the real culprit, they again were willing to listen as before to their late advisers.

The Athenians now sent Æschines to Philip, to learn his purposes, and to soften his resentment. But before his arrival, Demades, an eminent orator, who was among the prisoners, had already been set free, and directed to assure the Athenians, that the Macedonian king was disposed to be their friend. Soon after, all the Athenian prisoners were released, and a supply of clothing given to such as were in want of it. His conduct had been similar in every victory, which had given a body of Athenian citizens into his hands; and it is worth considering what could have been the motive to such sustained generosity towards his most inveterate enemies, in a man, who, though not sanguinary by nature, and generally more merciful than most Grecian warriors, had been known to act with harshness on less provocation. Some reasons for the difference may be found both in his interests and his character. The greatness and security of Macedonia were to be promoted by the total destruction of Olynthus, as a state. When this act was done, no personal forbearance would avert from the conqueror the general hatred of the citizens; and to reduce them to slavery, therefore, seemed a measure of security, as well as of revenge and profit. But the destruction of Athens was not in his wish; its subjection had not hitherto been in his power; and even now, if he pushed the war to extremity against it, there might be some doubt of his allies supporting him. Athens remaining independent, to conciliate it might be politic; and Philip's prudence would here concur with the natural kindness of his disposition, which in the other case had been overborne by different interests and feelings. Besides, as a man of letters and accomplishment, Philip respected the chief seat of

philosophy and art; as a lover of fame and popularity, no less than of power, he was anxious to appear advantageously in his dealings with a people the most conspicuous, as well as the most intelligent, in Greece. His conduct in these instances was most honourable, and it is but just and candid to suppose that it sprang in a great measure from honourable feelings; but we cannot give him the same credit for real generosity on the present occasion, which we might, if his proceedings had been consistently humane, when the temptation to cruelty was stronger, and there were fewer reasons of policy to prevent him from yielding to it.

The conquerors went from the field to Thebes, where they found a ready submission. The government passed into the hands of the Macedonian party, and to make sure their ascendancy, the Cadmeia was garrisoned with a detachment from the army under Philip. The revolution now effected was not disgraced with executions, banishments, or confiscations. The Bœotian towns were made independent, the numerous exiles restored, and all prisoners, both Thebans and others, set free, unransomed. Philip next proceeded to show to Athens a still greater liberality. When it was known there that favour might be expected, an embassy had immediately been sent to wait on him. Meanwhile he had caused the bodies of the Athenian slain to be burnt, and the bones to be sent to Athens; and he committed the procession to the charge of his principal minister, Antipater, whom he also appointed his ambassador to the people. He freely offered the renewal of peace and alliance on the former terms; and to testify his disposition, as general of the Amphictyons, to do impartial justice between state and state, he procured the restoration of Oropus, which, belonging to Athens, had long been forcibly held by the Thebans.

Philip was now beyond dispute the first potentate of Greece. His kingdom was flourishing; his enemies depressed; his allies many and powerful, and completely under his direction. Henceforth, at least, he might safely devote himself to increase the happiness of his kingdom, by peacefully cultivating its resources and improving its government. But the rarest, as well as the most excellent of patriots, is he who, bred to war and accustomed to victory, has yet the

wisdom and virtue rightly to value the blessings of peace. Only one winter had elapsed after the battle of Chæroneia, when Philip was preparing to attempt the conquest of Persia. There can be little doubt that his principal motives were ambition, and the hateful love of war; but his determination may very probably have been aided by a persuasion common among the most liberal Grecian statesmen, that the turbulent spirit of their countrymen wanted a vent, and that the only effectual method of preserving tranquillity at home, was by uniting them against the barbarian, whom they were wont to consider as their natural enemy. At the proposal of Philip a general congress was assembled at Corinth. His views were approved, and he was elected captain-general of Greece. In the midst of his preparations Philip was assassinated by a young Macedonian of rank. But his plans of conquest did not perish with himself, like the similar projects of Jason the Thessalian; for he left a son, the celebrated Alexander, of talents not inferior, and more unbounded ambition.

SECT. IV.—The party of Demosthenes had recovered its predominance in Athens, and the news of Philip's death was received there with the most unmanly exultation. The murderer had been slain, but high honours were voted to his memory. To reward the assassination of an enemy, especially if a king or tyrant, was a common measure, which however detestable to the better taught morality of modern times, appears in Greece to have been extensively approved. But, in the present case, the conduct of Philip after the battle of Chæroneia stamps the act with a character of ingratitude, which has shocked some of his warmest enemies. A sacrifice of thanksgiving was ordered by the people, as if they had heard the news of a great victory; and Demosthenes, though he had recently lost his only child, and though custom, deemed sacred, forbade all persons under such a loss to show themselves except in mourning, appeared at the ceremony in a robe of white, and with a crown of flowers on his head.

The high natural gifts of Alexander had been improved by the best instructions which the age could supply. As a patron of letters, Philip was both liberal and discerning; his court was the resort of many eminent philosophers, but the education of his son had been

chiefly intrusted to Aristotle, the most eminent of them all. The murder of Philip seems to have been connected with a plot to set another member of the royal house upon the throne; but all disturbance was prevented or suppressed by the promptitude of Alexander and the prudence of the counsellors by whom he was surrounded; and the young king then turned his attention towards Thessaly, his father's surest and most valuable ally. The Thessalian states were readily persuaded to elect him as the chief of their confederacy, and to support him in claiming the later and loftier acquisition of Philip, the political and military leadership of all Greece. He then went to Thermopylæ, took his seat among the Amphictyons, and obtained from that body a vote which constituted him captain-general of the Greeks; an important sanction to his claim, though not by itself sufficient to confer the desired authority without the consent of a more general congress of the states. Opposition was apprehended from Athens and Thebes, of which the former had abundantly shown a hostile temper, while in the latter, though the administration was yet in the hands of Alexander's friends, the opposing party were fast recovering strength and boldness. Alexander suddenly entered Bœotia with an army. His presence confirmed the tottering power of his Theban friends, and deterred the Athenians from manifesting their enmity in open opposition to the meeting which it was now proposed to call at Corinth, to consider the claim of Alexander to the leading of Greece. The meeting was called, and its debates would seem to have been free from the present terror of an over-awing force, though influenced no doubt by the fear of after-resentment from the powerful Macedonian. The vote which gave the command to Alexander was nearly unanimous; the Lacedæmonian deputies alone protested, saying, "that their national inheritance was not to follow, but to lead."

The Grecian states were generally making ready to war against Persia under Alexander, who had himself returned into Macedonia to complete his own preparations, when his kingdom was threatened by an extensive combination of the barbarians on its northern and western borders. He broke their measures by his energy and rapidity, defeated them, and then proceeded to take vengeance; nor during a long and

every where successful campaign, in which he carried his arms even beyond the Danube, did he fail to enforce the entire submission of every tribe that had provoked him. His return was hastened by alarming news from Greece.

We have often seen the riches of Persia employed in fomenting the dissensions of Greece, and supporting the parties which seemed at the moment, whether from weakness or from whatever cause, the least to be dreaded. Such a policy seemed now more than ever necessary, when the greater part of Greece was united avowedly against Persia; and, accordingly, the treasures of the king were largely dispensed in aid of the party hostile to Macedonia. The agent in these transactions was Demosthenes, the determined enemy of Philip and Alexander, and now all-powerful in Athens; and his detractors accused him of embezzling much of the wealth which confessedly passed through his hands.

The ascendancy of the Macedonian party in Thebes had been protected by a garrison in the Cadmeia, under the joint command, apparently, of a Macedonian officer and a Theban party chief. Both were assassinated by some Theban exiles who secretly returned. An assembly was hastily summoned; the ruling party were surprised and disheartened; the friends of the exiles full of hope and alacrity; and to heighten both these feelings, a report was spread that Alexander had perished in Illyria. The assembly voted that the liberty of Thebes should be asserted against Macedonian dominion, and siege was straightway laid to the Cadmeia.

The Theban revolution appears to have been part of an extensive scheme concerted at Athens. A large supply of arms was furnished by Demosthenes, probably at the expense of Persia; and on his proposal the Athenian assembly voted succours to the Thebans. Troops were also voted by the Argians, Arcadians, and Eleians; but the Peloponnesian succours were detained at the Isthmus, and the Athenian at home, through the wish to gain some insight into the probable event of the war before taking part in it. Such was the state of things when the Theban leaders learnt with dismay that Alexander, by a rapid march through a difficult mountain region, had unexpectedly made his way into Bœotia in a time almost incredibly short. Their danger was great, not only from the Macedo-

nian force, but from the reviving hopes of their fellow-citizens of the opposite party. They ventured the bold assertion that the son of Philip was certainly dead, and that it was another Alexander, the son of Aeropus, who was come against them; and hereby they succeeded in silencing all proposals of accommodation. Alexander advanced towards Thebes, but did not immediately attack it, being willing to leave an opening for peace, and trusting to the strength of his party within the walls.

After Alexander had been for some time before the city, a skirmish, begun without orders by one of his officers, brought on a general engagement. The besiegers were victorious, and their vanguard, pursuing the enemies to the gates, broke in with them. The city was taken, unexpectedly alike to the conquerors and the conquered; and terrible was the destruction which ensued by the hands, not so much of the Macedonians, as of the Boeotians and Phocians, who were numerous in the invading army. These had deep wrongs to avenge; and the Thebans now drank to the dregs the bitter cup which they had held to the lips of the Plataeans, Thespians, and Orchomenians. Old men, women, and children were slaughtered in the streets, in the houses, and at the altars. When the butchery was over, the fate of the survivors and of the city was referred by Alexander to the common decision of the confederate Greeks. It was decreed that the city should be levelled with the ground, and all the inhabitants sold as slaves, save only the priests and priestesses, and such as were known friends of Macedonia. It was also voted that Plataea and Orchomenus should be restored. Alexander, an ardent lover of literature, is said to have procured that the house of Pindar, the great Theban poet, should be spared, and his posterity exempted from the doom of slavery. Otherwise the decree was fully executed. It is reported that Alexander bitterly regretted the destruction of Thebes, not only for the amount of misery occasioned by it, but also because that city was the birth-place of Hercules, the boasted founder of his race. If, indeed, there was mingled with this fanciful motive for sorrow any real and lively concern for the calamities inflicted, his repentance is a rare phenomenon in the history of conquerors: but even in this case little importance is to be attached to a vain and transitory feeling, which never ex-

erted any influence on his subsequent career. (B.C. 335.)

Other Grecian cities had been ruined not less completely than Thebes, but in none had the sufferers been so many; and the extent of the calamity struck deep awe into all who heard it, though few regretted the downfall of a power, which had rested almost entirely on force, and little on good will or superior reputation. Its sudden and apparently accidental capture gave strength to the opinion, extensively prevalent, that Thebes was labouring under a divine retribution; and men's minds ran back through various deeds of oppression and bloodshed, which had stained the short period of Theban empire, to the treacherous seizure of Plataea, and the old but unforgotten crime of alliance with the Persian against the freedom of Greece. Those states, which had prepared for Thebes an aid too tardy to save it, but prompt enough to expose them to the vengeance of the conqueror, had more pressing subjects to consider than its guilt or its calamity. Alarmed at the perils which their miserable and treacherous policy had brought near their own doors, they mostly acted with as much meanness as before. The Arcadians put to death their late advisers; the Eleians restored the banished friends of Macedonia; but the danger was greatest to Athens, as the nearest state, and the most offending. When the news came that Thebes was taken, the Eleusinian mysteries were in celebration; but they were immediately interrupted, and all hands employed in carrying every thing valuable within the walls. An embassy was sent to Alexander, chiefly made up of the friends of Phocion; but it is probable that Demosthenes accompanied it, and that we may refer to this occasion the story told of him by Æschines,—that, being sent ambassador to Alexander, he went no farther than the Boeotian border, but returned in fear, either of Alexander or of his republican Greek allies. Alexander demanded that Demosthenes, and nine others, should be given up to him, as authors of the battle of Chaeroneia, and of all the succeeding troubles of Greece. A second embassy was sent to deprecate this severity; and Alexander, whether through respect to the fame of Athens, or through the desire to settle Greece without delay, and proceed against Asia, contented himself with requiring the banishment of Charidemus, one of the number.

CHAPTER IX.

Of the conquests of Alexander in Asia, and of the affairs of Greece, from the time when that prince set out on his enterprise to his death.

THE long reign of the second Artaxerxes had closed with a shocking tissue of family dissension and bloodshed. To secure the succession to Darius, his eldest born, the old king had made him a partner in the sovereignty; but he was rewarded with presumptuous ingratitude, and a quarrel ensued, which ended in an attempt by Darius to assassinate his father, and in his death by the hand of the executioner. The few remaining years of Artaxerxes were full of troubles: he took for his first minister Arsames, his bastard son; Arsames was murdered, and the deed was imputed to the jealousy of Ochus, the only then living legitimate son. The same year an extensive revolt broke out in the western provinces; and Artaxerxes died in the following year, which was that of the battle of Mantinea. Ochus took the throne, but according to the bloody policy which has ever prevailed in Asiatic monarchies, he did not deem it secured till all his illegitimate brethren had been assassinated, in number eighty. He then first made known his father's death, and proclaimed himself king, taking the name Artaxerxes.

The reign of Artaxerxes Ochus was a troubled one. The great western revolt was speedily suppressed, and the king then setting himself to re-conquer Egypt, sent thither several armies, which failed disgracefully. Artabazus, the satrap of Bithynia, revolted, and, by the aid of Grecian mercenaries, he maintained himself against all the strength of Asia, till his treasury failed, and, unable longer to supply his Grecian troops, he fled to the court of Philip. The Phœnicians too revolted. They had been, like the Grecian subjects of Persia, allowed to govern themselves by their own republican institutions, under the controul of a Satrap, who levied from each city its stipulated tribute, and commanded the armies of the province. They were rich and prosperous through commerce; they had ever been courted and respected by the sovereign, for as their ships and sailors mainly constituted the naval strength of the empire, it was most important that their service should be willing. The present satrap, jealous probably of their grow-

ing power and rising pretensions, had attempted, injudiciously, to tighten the bands of authority. He was accused of arrogance and tyranny, and the Phœnicians revolting allied themselves with Egypt. Ochus went in person against them, and reduced them to submission; but his triumph was disgraced by a series of cruel and treacherous acts, which ended in the utter destruction of Sidon by the despair of its inhabitants*. He next subdued the island of Cyprus, which was also in rebellion; and then prepared an expedition against Egypt. He assembled an overwhelming force of Grecian mercenaries, and placed a division under Mentor, a Rhodian soldier of fortune, who being sent by the King of Egypt to assist the Phœnicians, had deserted to the Persians with 4000 Greeks, whom he commanded. To his second employer Mentor was more faithful: Egypt was conquered, and so great were Mentor's services, and such the opinion which Ochus entertained of his ability, that he was set in command over all the maritime provinces of Asia Minor. His sister was wife to the rebel satrap Artabazus; and, at his intercession, Artabazus was pardoned, and restored to his command. For twelve years the western provinces enjoyed unusual quiet under the vigorous rule of Mentor and his brother Memnon, the confidential friend and minister of Artabazus. At the end of that period, in the year after the battle of Chæroneia, Artaxerxes Ochus died.

It was believed that Ochus had been poisoned by the eunuch Bagoas, his chief minister and favourite, who, still retaining his power, gave the diadem to Arses, the youngest son of the late king. The other sons were murdered, and Arses also perished in the third year of his reign, by the act of his all-powerful minister, whom he had dared to thwart. Codomannus, a descendant of the second Darius, and a man of tried valour and considerable military experience, was chosen as the successor. On ascending the throne he took the name of Darius. Bagoas died soon after; and it was ru-

* This is Diodorus's account. It must, however, be taken with some qualification, as we shall find the Sidonians again conspicuous about twenty years after in the wars of Alexander. Probably, the conflagration related by the historian only extended to some particular quarter of the city, in which the most determined of the Sidonians may have maintained themselves, when the rest of the town had submitted to the conqueror.

moured that dissension had arisen between the king and minister; that Bagoas had prepared a poisoned draught for Darius, and had been himself compelled to drink it.

Soon after the death of Ochus, Philip had undertaken to deliver the Greeks of Asia from the Persian yoke, and had sent an army into Æolis, under Parmenion, his ablest general. Parmenion was opposed by Memnon, with force enough to check, but not to crush him. The attention of the court was elsewhere occupied, and it was not till Alexander was preparing to cross the Hellespont in person, that the Persian government began to gather any considerable force by sea or land. Two years had passed since Philip's death, and four since the battle of Ohæroneia, when Alexander, at the age of twenty-two, commenced the expedition, which was to change the dynasties, and remodel the political state of half Asia. On the Asiatic side of the Hellespont, was the territory of ancient Troy, the stage of the principal actions celebrated by Homer. The imagination of Alexander was naturally lively; he was deeply tinctured with love of letters, and reverence for antiquity. Of this we have seen some instances in his conduct after the taking of Thebes. The *Iliad* of Homer was especially gratifying both to his poetical tastes and to his warlike propensities, and he is said to have made it his constant companion in his journeys and campaigns. But when he stood on the scene of his favourite story, his admiration of the poet and his heroes was exalted into passionate enthusiasm; and while his army passed the strait unopposed, under the direction of Parmenion, he was visiting the village and surrounding fields, where the fallen city once had stood, and sacrificing to the deities of the place, and the chiefs and princes there entombed. The foot in the army somewhat exceeded thirty thousand, of whom twenty-four thousand were heavy-armed, and about half of these Macedonian: the horse were nearly five thousand, chiefly Macedonian, Thessalian, and Thracian. In proceeding towards Ionia, it was resolved to skirt the eastern highlands of Ida. The neighbouring satraps gathered their forces to oppose him, as soon as they learnt the direction of his march, and they were joined by Memnon; who had till now been engaged in protecting the coast. The assembled army consisted of twenty thousand Persian horse, and as many

mercenary Grecian heavy-armed infantry, with light troops whose number is uncertain. Thus inferior in regular foot, it was Memnon's wish to avoid a battle, but to hang on the advancing enemy with a numerous cavalry, which should let him neither eat nor rest, to destroy the harvest in his way, and even the towns in which he could shelter. This mode of defence would probably have been the most effectual; but it carried with it an amount of public loss and private suffering, to which the Persian officers would not consent. It was therefore rejected, and a stand was made in a very advantageous position, at the ford of the Granicus, a rapid river, running northwards from Ida to the Propontis. Alexander forced the passage, and completely defeated the enemy, but not without a severe struggle, in which his person was exposed to imminent danger. This victory opened to him all Asia Minor. Sardis submitted without resistance, and he went into Ionia. The people of Ephesus had risen on the oligarchy supported there by Persia, and Alexander arriving confirmed the ascendancy of the democratical party, restrained their violence, and established good order. Most Grecian cities readily allied themselves with him, and in all these he set up democracy. Miletus and Halicarnassus holding out for Persia were taken by force. The successes of Alexander were brilliant, his policy was liberal towards barbarians as well as Greeks. He won the Lydians by reviving their ancient laws, which had been overborne by the Persian satraps; and the Carians, by restoring the government to the legitimate heir, who had been deposed in favour of a Persian. In the course of a year by force and conciliation he had made himself the master of Asia within Taurus, the vast mountain chain extending from the Mediterranean to the Euxine sea; that is, of all Asia Minor, save the narrow maritime province Cilicia.

Meanwhile Memnon had returned into the Ægean sea with a fleet far outnumbering any which Macedonia and its confederates could support, and had raised a powerful body of Grecian mercenaries to co-operate with it. He had reduced the important islands of Chios and Lesbos, and struck a terror into the enemies of Persia, as far as Eubœa; and negotiating with the Grecian states unfriendly to Macedonia, he had persuaded many of them, and among others

Iacædæmôn, to ally themselves with Persia. His intention was, after completing the conquest of Lesbos, to proceed to the Hellespont, when his irresistible fleet would cut off from Alexander all communication with Europe. The small army of the invader might then be crushed by the collected forces of Asia, while Memnon himself, with his Grecian allies, would overrun and conquer Macedonia, and thus, in the language of the party hostile to Alexander, secure the liberty of Greece. In the midst of these projects Memnon died, and with him his designs. The land force of his armament was summoned to join the king in Syria.

With the arrival of spring, Alexander, crossing Taurus, overran Cilicia. That province is separated from Syria by a branch of Taurus, on the opposite side of which the vast host of Darius was now assembled. For some time each army waited for the other to advance; for it was the wish of the Persians to engage in the plains of Syria, where their numerous cavalry might range at will, while the smaller and more stationary forces of the Greeks and Macedonians would have acted to advantage in the confined valleys of Cilicia. At length Alexander led his forces through the pass which opened into Syria. Darius immediately crossed the mountains by a different pass into Cilicia, and thus placed himself in Alexander's rear. His object was probably, by occupying the passes, to prevent his enemy from returning into Cilicia, and at the same time to cut off from him all supplies and reinforcements; so that his army, debarred from retreat, and deprived of all provisions, but what it could find in the country, might perish by want, and by the continual harassing of a superior cavalry. But Alexander, though surprised by the movement, was prompt enough to secure the command of the principal pass, and he led back his army to attack the Persians, near Issus, at the entrance of Cilicia. Besides the light-armed soldiers, they had thirty thousand heavy-armed Greeks, and a greater number of Asiatics armed and trained in the Grecian manner. The horse were thirty thousand. The whole was advantageously posted along the bank of a river, and extending from the mountains to the sea. Nevertheless, after a hotly contested action, Alexander forced a passage. The slaughter was great both in the battle and in the pursuit.

Darius escaped with a portion of his cavalry, but his wife, mother, and sister, and two daughters, were taken in his camp. They were treated by Alexander with kindness, and even with delicate respect; and so great it is said was the effect produced on Darius by a generosity little usual either in Grecian or in Asiatic warfare, that when he heard it he prayed to have no other successor but Alexander, if it were God's will that he should no longer be king of Asia.

Having taken possession of Damascus, the capital of Syria, Alexander soon turned his eyes to the narrow, but rich, populous, and powerful country of Phœnicia. The small states of that province were popularly governed, though mostly with a single chief at the head of the administration; and they seem to have been very subject, both to internal dissension and to mutual quarrels and jealousy. Tyre, the wealthiest and most powerful, was also the most favoured by the Persian government, to a degree which gave offence in Sidon, its mother city, and the nominal capital of the province. The Sidonians invited Alexander, and he took possession of their city unopposed. Others also submitted; but the Tyrians, the most favoured of the favoured Phœnician nation, refused to transfer their allegiance to the conqueror. They professed their willingness to be strictly neutral, admitting within their walls neither Persians nor Macedonians; but this did not satisfy Alexander, and he besieged the city. Tyre was built on an island, strongly fortified, and vigorously defended. The assailants attempted to carry out a mole from the main land, for the support of towers and battering engines, such as were used in that age. These were burnt by the Tyrians from their shipping, and Alexander found that he could not succeed as long as they commanded the sea. He raised a navy from such of the Phœnicians as were friendly to him, from the Cyprians, whose support had been engaged by his successes, and from some of the maritime Greeks. His fleet was now too strong for the besieged, so that he soon confined them within their walls, and finally took the city by assault. Eight thousand Tyrians perished in the storming, the remainder of the people were sold into slavery; and of this great calamity it is nowhere stated that it ever disturbed the tranquillity of the victor.

Alexander next proceeded to Egypt, which submitted without resistance. He

gratified his new subjects by magnificent sacrifices to the gods of the country, and held a splendid festival after the Grecian manner, with contests in athletic exercises, poetry, and music. He then commenced a more permanent and more useful monument of his greatness. The singularly rich and populous country of Egypt was without a convenient haven; and Alexander having selected a spot on the western branch of the Nile, where there was every advantage of situation for a great commercial town and port, resolved to make it the Grecian capital of Egypt, the seat of government, and the centre of trade. He gave the name of Alexandria to the new city, which was largely colonized by Greeks, and soon became and long continued wealthy, populous, and flourishing. It retains, even now, the ancient appellation, and though fallen from its former greatness is still a considerable town: but its decline must be progressive; for its excellent harbour is fast verging to ruin from the deposits of the river, which have already in great measure choked it up. While engaged with his new capital, Alexander learnt that the Persian fleet had been completely broken up through the defection of the Phœnicians and Cyprians, and that all the Grecian islands allied with Persia had returned to the Macedonian confederacy. (B. C. 332.)

During his stay in Egypt he undertook an expedition of no political or military importance, but yet too singular to pass unnoticed. In the sandy desert which stretches westward from the boundary of Egypt, there are scattered spots, like green islands in the waste, where springs of water give fertility to the elsewhere barren and burning soil. On one of these stood the ancient and far-famed oracular temple of Jupiter Ammon. The difficulty and danger of approaching it diminished the number of votaries, but surrounded the shrine with a more mysterious sanctity. In sending Alexander thither, we may well believe that religion had a share; but it was probably combined with curiosity, with the habitual love of extraordinary things, with the vanity of imitating Perseus and Hercules, his boasted progenitors, both of whom were said to have visited the oracle, perhaps with some project of discovering a communication with the interior of Africa for purposes of trade. He set out with a detachment of his army, reached the land of Ammon, con-

sulted the oracle, and returned in safety; but not without experiencing the perils and sufferings which arise, in crossing the deserts, from the intolerable heat, the want of water, and the shifting nature of the sands.

In the next spring he went against Darius, crossed the great rivers Euphrates and Tigris unopposed, and found the enemy at Gaugamela near Arbela, on the eastern bank of the latter. The country was favourable to cavalry, in which the Persian army was stronger than that defeated at Issus; it had also elephants, and scythe-armed chariots, but it was weak in Grecian foot. A hard fought battle ensued: great gallantry was shown by the Persian leaders, and some skill; but they could not withstand the superior discipline of the Greeks and the ability of their commander, whose conduct on this occasion gave the highest proof of military science, and original genius for war. Their army was completely destroyed: Darius fled towards the northern provinces, the most warlike and the most attached to himself; and Alexander seized on the rich provinces of the south almost unresisted.

Darius was now at Ecbatana, the capital of Media; and his only hope was to maintain himself in that and the adjoining provinces, till Alexander might be called away by troubles at home. Of this there was no small prospect, for an important contest had indeed arisen, but it was decided about the time when Alexander was conquering at Gaugamela. The Lacedæmonians had ever disallowed the claim of Macedonia to the supremacy of Greece, and had laboured to place themselves at the head of a hostile league. Their hopes had been weakened by the death of Memnon, by the breaking up of the Persian fleet, and by the battle of Issus; but their party was still powerful, especially when seconded by the gold which the agents of Persia still supplied in considerable abundance. Three hundred talents (upwards of 60,000*l.*) were offered to the people of Athens, to induce them to join the confederacy. The offer was refused; but there was still in Athens a powerful party headed by Demosthenes, which though unable to induce the people to side with the enemies of Alexander, was yet strong enough to prevent them from effectually supporting his friends. Eleia, Achaia, all Arcadia, except Megalopolis, took part with Laco-

dæmon; and their army was strengthened with ten thousand mercenaries, probably supported by Persia. On the opposite side were Argos and Messenia, the constant enemies of Lacedæmon, with most of the states north of the Isthmus. Athens stood aloof from the contest; but the intriguing policy of Demosthenes was successfully employed in exciting a revolt among the Thes-salians.

Antipater, one of Philip's ablest ministers, had been left by Alexander as his vicegerent. He quelled the disturbances in Thessaly, and then succeeded in obtaining from the states of the confederacy a force which, when joined with such of the Macedonian troops as could be spared, might enable him to meet the hostile league with advantage. The Lacedæmonians and their allies had already formed the siege of Megalopolis, and its fall was expected daily, before Antipater could enter Peloponnesus to relieve it. It held out, however, till his arrival. A well fought and bloody battle ensued, but the Lacedæmonians were overborne by superior numbers. Agis their king fell fighting after his phalanx was broken. The Lacedæmonians sued for peace, and Antipater referred their ministers to a congress which was held at Corinth. It was decided that the fate of Lacedæmon should be decided by Alexander, and that fifty of the noblest Spartans should be given as hostages that their state would submit to his determination.

Meanwhile Alexander had advanced into Media with the beginning of spring. Surprised by his rapidity, and disappointed of expected succours, Darius was again compelled to fly, and the Median kingdom yielded to the conqueror. Darius escaped into Bactria, where Bessus, the satrap of the province, and some others, conspired against him, made him prisoner, and finally murdered him. When overtaken by the cavalry of Alexander, the body was found by the Macedonian prince, and taken up and sent to be buried in the royal sepulchre in Persia. Bessus declared himself the king of Asia, but he soon was driven from his satrapy, and delivered by his followers to the mercy of Alexander, who put him to death as a murderer and traitor. But the resistance of the northern provinces under different chiefs was long continued and frequently renewed; and it was not till the third year after the battle of Arbela, that the Per-

sian empire was entirely subdued. The dominions of Alexander then reached to the Caspian sea, and the river Iaxartes (the Sirr), which divided them from the wilds of the wandering Scythians. There was little temptation to cross the river with any view of conquest; and though Alexander once carried his arms against the Scythians, it was only to chastise their turbulence. But the subjugated provinces included nearly all the most valuable districts and principal cities of central Asia. Sogdiana, the most northerly, had for its capital Maracanda, which will easily be recognised as the still flourishing Samarcand. In the city of Bactra we find Balkh, and Candahar in Alexandria, a Grecian colony founded by Alexander, and named, like his Egyptian capital, from himself. These names will show how far the empire extended towards the north-east; its southern and western limits have been indicated sufficiently in describing the course of the Macedonian conquests.

The difficulties of Alexander's situation were great. In a few years he had made himself the lord of many nations of various manners, but all widely differing from the comparatively scanty band of Greeks and Macedonians, by whom all were to be held in subjection. The very rapidity of his progress had precluded the growth of any habitual principle of loyalty, so that nearly his whole empire was in the state of a newly conquered province, only kept in obedience through force and fear. It was necessary to conciliate his new subjects, lest his small army should be harassed and worn out with continual service: it was necessary to retain the affection of his Grecian followers, since it was by their power only that he could secure a single province. These objects he endeavoured to reconcile, by distributing offices of trust and favour both to Europeans and to Asiatics, retaining, however, the sword almost entirely in the hands of the former, while the civil administration was principally committed to the natives of the country. A more questionable part of his policy was the adoption of the Median dress, and the exaction from all alike of the Asiatic homage of prostration, which seemed to the Greeks an act of degrading servility when tendered to any mortal. To justify the demand, his flatterers asserted that Alexander was really more than man; that his deeds had far exceeded those of the ancient

heroes, his own ancestor Hercules, and Bacchus the conqueror of India, who were worshipped as gods by all; and the fable was spread, that he, like them, had something of divinity in his origin, as well as in his actions, and that he was really the son, not of Philip, but of Ammon, the great divinity, to worship in whose temple he had already undergone so much toil and danger. These extravagant pretensions were far less shocking to the Greeks than to persons educated in a purer religion: for even those who most condemned them worshipped mortals not more distinguished than Alexander, and having only this advantage, that they had lived in a distant age. The result, however, was general dissatisfaction, and heart burnings between Alexander and some of his trustiest followers. It is probable, that views of policy were less the motive to his present conduct than the excuse by which he coloured to himself a weakness, of which he would otherwise have been ashamed; and that he was really actuated by the overweening spirit, which unparalleled successes had fostered in a youth of temper naturally vehement and ambitious. The Persians had, indeed, been accustomed to honour their kings almost as divinities, and Alexander might fear that their respect for him would be lessened by observing that others acted differently. But the Persian great well knew that Grecian manners differed from their own, and they were prepared, by repeated experience of Grecian superiority in policy and war, to respect the peculiarities of their conquerors, and associate them with the ideas of power and ability. With regard to them, the present claims of Alexander could not have been necessary, but might, perhaps, if unresisted, have been advantageous: to the Greeks and Macedonians they were deeply disgusting; but to all the king must have been degraded, by appearing as the eager claimant of a homage which was either refused, or extorted with difficulty. Fresh matter was given for dissension, already too prevalent in the camp. The republican Greeks and the Macedonians were mutually jealous, and the latter were again divided into factions among themselves. These discords had recently been much exasperated. Philotas, the son of Parmenion, was an excellent officer, and high in trust, but boastful, profuse, and extravagant in self-opinion. He was accused

of treason, and condemned to death by the assembled Macedonians, under circumstances, if not of proved guilt, at least of strong suspicion. His father was also put to death on slighter evidence, and without the opportunity of making a defence. This most unjust precipitation was probably occasioned by the fear, that if time and warning were given to the accused, his power and popularity might enable him to resist the authority of the government; but it leaves a deep stain on the character of Alexander, especially as both he and Philip owed more gratitude to Parmenion than to any other individual. The ferment caused by the ruin of the second family in Macedonia had scarcely subsided, when fresh heats were kindled by Alexander's demand to be honoured after a manner wholly alien from the habits and principles of the Greeks.

Among those who saw with displeasure the rising arrogance of Alexander, and his growing preference of oriental customs, was Cleitus, the companion of his youth, and now one of his most favoured generals, who had saved his life in the battle of the Granicus. It happened at a banquet that some flatterers of the king, after pursuing their accustomed theme of the superiority of his exploits to those of Bacchus, went on further to pay their court to him by depreciating the actions of his father—an unworthy homage, equally disgraceful to those who offered, and to him who accepted it. Cleitus rebuked their baseness with honest resentment, took up the praise of Philip, and drew a comparatively disparaging picture of the actions of Alexander; but he was unfortunately heated with wine, and after replying to the courtiers, he addressed himself to Alexander, with intemperate and unmannerly violence. The prince, mad with wine and anger, attempted to rush upon him, but was held by some of his companions, while others forced Cleitus out of the room. All was vain; he snatched a weapon, and following Cleitus, who returned to brave him, killed him on the spot. The deed was scarcely done when he was seized with the bitterest repentance. For three days he kept his chamber, and would neither eat nor drink; but his friends at length persuaded him to resume the duties of his station. He never seems to have formally renounced the extravagant pretensions which led to this murder, and to other mischiefs, which are recorded by his

historians ; but he seems to have found the dislike of the Macedonians to the new ceremonies insurmountable, and to have felt it necessary no longer to insist upon their universal observance.

Scarcely had the empire of Darius entirely submitted, when the odious lust of war and conquest was already driving Alexander to more distant enterprise. South-eastward lay the wide and fertile India ; and into it he advanced, fully bent on subduing the whole. For his previous course of action, some excuse may be found in the enmity subsisting between Greece and Persia. It might concern the security of the Greeks, or at least of those in Asia, that Darius's power should be curtailed ; though, assuredly, no lawful object could demand the entire subjugation of his empire. But the present expedition was neither prompted by provocation, old or recent, nor covered even with the flimsiest pretext of political necessity ; it was undertaken avowedly in the spirit of the robber, who seizes every thing indifferently which his eye covets and his hand can master. He carried his arms with uniform success to the great river Indus, and considerably beyond. But his soldiers were weary with toils and dangers, and alarmed at the prospect of warfare endlessly renewed by the wild ambition of their chief : their discontent at length broke out in open remonstrance ; and Alexander, after a passionate attempt to change their resolution, was obliged to give way. He returned to the Indus, which he intended to make the Eastern boundary of his dominions, and proceeded down the stream to the Indian ocean, reducing all on the right bank who still refused obedience.

The most praiseworthy point in Alexander's character was his attention to the welfare of the conquered nations ; and his capacity was most commendably shown in the originality and wisdom of some of his plans for their improvement. This does not remove the guilt of his ambition. It is injustice for any, without lawful authority, violently to force upon a nation even what may be for its good ; it is fearful presumption to kill, burn, and pillage through a continent, in the hope of outweighing the certain miseries of war by the benefits of wiser administration in the chance of victory. It is not for a prince to judge whether his neighbours would be happier under their existing government or under his own ; nor can his territories in any wise

be rightfully extended, except by the free consent of his new subjects, or sometimes when, by a most rare combination of circumstances, conquest has become necessary to protect his people from aggression. The original iniquity of Alexander's invasions is not excused by any merit in his government, and can be extenuated only by considering the loose morality of his age and the misfortune of a princely education. Even considering his career in the most favourable light, we cannot but look with horror at a boy rushing headlong upon the work of devastation and blood, to make himself to be talked about ; yet it must not be denied that he showed a more liberal ambition and thoughts more enlarged than form the ordinary character of a mere conqueror. Notwithstanding the vast extent of his subject provinces, and the short time allowed to the regulation of each, his officers were mostly well chosen, while he was himself ever ready to hear complaints and punish oppressions ; so that Asia, during his brief reign, appears to have enjoyed considerably more than its usual portion of quiet and good order. He founded many Grecian colonies in various regions, with the double purpose, probably, of securing the obedience of the people and advancing their civilisation. He sedulously encouraged commerce, and first conceived the idea of opening a communication between India and Europe. Near the mouth of the Indus, he had fortified a place for a principal haven and trading station ; and from hence a fleet was sent to explore the coasts of the Indian Ocean to the Persian Gulf, and finally to proceed up the gulf to the Euphrates. Great hardships were endured, and great difficulties overcome, by the crews of the exploring squadron ; but the voyage was completed, and knowledge gained that might facilitate bringing the merchandise of India to Babylon and the central part of Asia by the Persian Gulf, or by the Red Sea to Egypt. Goods landed in Egypt might be brought by canals into the Nile, and down the Nile to Alexandria, and thence dispersed through Europe by the Mediterranean and its communicating seas. Both these became and long continued important channels of trade—the former, as long as the countries round the Euphrates were flourishing and wealthy ; the latter, till the bolder spirit of modern navigation had explored a

passage round the continent of Africa. The latter traffic especially enriched every people engaged in conducting it, and made Alexandria long one of the greatest cities on the earth.

Before the sailing of his fleet from the Indus, Alexander had commenced his march towards Persia. That he might provide for the relief of his crews at various stations along an unknown and inhospitable coast, he led a division of his troops through the dry and barren desert which stretches from the confines of India along the sea, the grave of every army which had hitherto attempted to cross it. The perilous march was not completed without the loss of many by fatigue and thirst; but the spirits of the soldiers were kept up by the fortitude of their commander, who took his full share in every hardship; and, instead of riding among his cavalry according to his usual custom, dismounted, and walked in full armour, beneath the burning sun, at the head of the infantry. It happened once, when all had long been suffering from thirst, that some soldiers found a small pool, and filling a helmet with water, brought it to the king. Alexander thanked them, but declared that he would have no relief in which all the army could not share, and taking the helmet, poured the water on the ground. The effect, we are told, was as if every man had drunk the water. Thus cheered and supported by the example of their leader, the troops completed their march into the fertile country beyond, where they were re-joined by their comrades, who had been sent by the safer and easier route through the higher regions.

The attention of Alexander was now directed to the punishment of satraps and other officers, who had abused their authority in his absence, and to the better internal administration of his empire. He wisely strove to establish harmony between the different races of his subjects, and to throw into the shade, as far as might be, the distinctions of European and Asiatic, the conqueror and the conquered. The very highest offices of trust and favour were still in the hands of Macedonians; but, in general, the administration was shared in such a manner between the nations, as to testify the impartiality of the sovereign, and his desire of ensuring equal protection to all his subjects. The army was extensively recruited with Asiatics, trained in the Grecian discipline, many of whom

were admitted into the choicest and most distinguished bodies, both of foot and horse. Inter-marriage between the different races was encouraged, and the king himself, who had already been united with a Bactrian princess, contracted a second marriage with one of the daughters of Darius. These things were not done without opposition. The pride of conquest and of Grecian blood ill brooked to be associated on equal terms with vanquished barbarians; and though much of Alexander's conduct only showed a just and liberal impartiality, there were parts of it which overstepped that boundary, and seemed to show an unworthy preference given to the more servile principles and more submissive manners of his Eastern subjects. Peucestas, being made satrap of Persia, learnt the Persian language, and habitually used it to the people of the country. He was justly praised by Alexander, and most unreasonably censured by the Macedonians. But he also took the Median dress, as had been done long since by Alexander himself; and this was complained of, not unjustly, both in the king and the satrap. By learning the language and manners of Persia, Peucestas could address himself both to Asiatics and Europeans, with equal convenience and equal respect. By the change of dress, he seemed to be disowning the country of his birth, and affecting to consider himself rather as a Persian than a Macedonian. The offence which had been given by Alexander's adoption of Eastern manners was revived by his approval of similar conduct in his officer. All these causes swelled the murmur which had now begun to prevail, that Alexander had subjected, not Asia to Greece, but Greece to Asia; and the result was a most perilous mutiny, and the threatened desertion of nearly all the Macedonians in the army. The commotion was however quelled by the energy and eloquence of Alexander, and his unbounded personal popularity among the soldiers.

The short remainder of his life was chiefly spent in the improvement of Babylon, the ancient capital of the Babylonian, Chaldean, or second Assyrian empire, which he chose for the seat of his government in preference to Susa or Ecbatana, the capitals of the Persian and Median monarchies. The reasons for the selection were manifold. A wide and fruitful plain, and two mighty rivers, the Euphrates and the Tigris, on the one

of which the city was built, while with the other it commanded a ready communication by numerous canals, made it a spot singularly fit for the support of a great collected population, and for all the purposes of trade, both inland and foreign. It was further recommended by its more central situation, and especially its lying nearer than the other capitals to Lower Asia and Europe. Babylonia, like Egypt, owed its extraordinary fertility entirely to the overflowing of its river; and to regulate this overflow the old monarchs had constructed channels, dams, and various other works, of great extent. These had fallen into decay under the Median and Persian kings, who resided in the upper provinces, and comparatively neglected the Babylonians; but Alexander applied himself vigorously to the work of restoration, and was rapidly bringing back the province to its ancient fruitfulness and prosperity, when, in the second summer of his residence at Babylon, as he was overlooking the works, with his wonted activity and carelessness of his person, in an open boat among the unwholesome marshes, he was seized with a fever, and shortly after died, in the thirty-third year of his age, and the thirteenth of his reign. By some writers it has been represented that his sickness was rendered fatal by intemperance; and a report was afterwards current among the Macedonians, which imputed his death to poison. But neither of these statements is countenanced by the most authentic records existing with respect to his last moments. (B. c. 323.)

During the latter years of Alexander, Greece was generally quiet, and little remarkable occurred, except some considerable party struggles in Athens. Before the battle of Chæroneia, when strife ran highest in that city, Ctesiphon had proposed a decree, to honour Demosthenes with a golden crown, for his eminent public services. The crown being voted, Æschines arraigned the decree, as irregular in form, and false in statement. It was passed, he said, while Demosthenes was accountable for an office, which he held, though the law expressly forbade the crowning any man while he had an account to render; it appointed that the crown should be presented at a time and place other than that which the law prescribed; and it declared, that Demosthenes merited reward for eminent services; whereas,

in truth, he was justly punishable for gross misconduct. On these grounds, Æschines impeached Ctesiphon, the proposer of the decree, and instituted proceedings against him for a penalty of fifty talents, upwards of ten thousand pounds. Soon after its commencement the prosecution was dropped, and slept for many years, till at last, while Alexander was warring in eastern Asia, it was resumed as a ready method of attacking Demosthenes, who then held the lead in Athens. The speeches of Æschines for the prosecution, and of Demosthenes for the defence, are the most elaborate works of their respective authors; and the latter in particular, which is commonly known as the Oration on the Crown, might alone prove Demosthenes the first of orators. The charge of informality may be considered as established; but that was, as well with the judges as with the advocates, a question very subordinate to the comparison instituted between the characters of the rival orators, and the merits of their respective systems of policy. Ctesiphon was acquitted, and the accuser failing to obtain a fifth of the votes, became liable to a heavy fine;—so far had he underrated the power of his opponent's eloquence or interest. Unable to pay the fine, or perhaps unwilling to live under his triumphant enemies, Æschines quitted Athens, and retired to Rhodes.

Not long before the death of Alexander, Demosthenes also went into banishment. The circumstances which led to his retreat were these: Harpalus, an early and favoured friend of Alexander, being left at Babylon as satrap of the province, and treasurer over a more considerable portion of the empire, had abused his trust so grossly that on the king's return he was driven to rebellion by the fear of punishment. He had gathered six thousand soldiers, and with those he landed in Laconia, in the hope, it may be supposed, of engaging the Lacedæmonians to renew their opposition to Alexander. Failing there of support, he left his army, and went to Athens as a suppliant, but carrying with him money to a large amount. His cause was taken up by many eminent orators, hostile to Macedonia; and Demosthenes himself, who had at first held back, was prevailed on to espouse it. It failed, however; the Athenians adhered to the existing treaties; and Harpalus, being obliged to quit Athens, carried his troops into Crete, and there perished by assas-

sination. It was said that his gold had been largely distributed among his Athenian supporters, and a prosecution was instituted against Demosthenes and his associates, as having been bribed to mis counsel the people. Demosthenes, finding probably the popular current strong against him, and wishing, therefore, to take his trial before a more dispassionate tribunal, procured a decree to refer the matter to the Areiopagus. The court pronounced against the accused; and Demosthenes, being fined in the sum of fifty talents (upwards of 10,000*l.*), withdrew to Ægina.

The age of Philip and Alexander is remarkable no less in the philosophical than in the political history of Greece; and it is pleasing to turn from those two great idols of the vulgar, the fury of the conqueror, and the busy keenness of the state-intriguer, to energies more guiltless and triumphs more lasting. The death of Socrates was soon repented by the Athenians; and so general was the admiration of that excellent man, that there were few succeeding philosophers who did not own his teaching as the fountain from which their doctrines were ultimately derived. His carelessness of outward splendour and patience in hardship were imitated by his scholar Antisthenes; but that which was in the master a genuine indifference to all but moral and intellectual pre-eminence, and an equal estimation of wisdom and virtue, whether in rags or in purple, became in the pupil an ostentatious preference of poverty. Antisthenes was the head of a sect which made it their boast to discard all prejudices, all arbitrary likings and dislikings, and to live by the dictates of pure reason, without regard to the habits and opinions of men. But they who glory in freedom of thought are sometimes misled as far by the love of paradox as others by prejudice. The followers of Antisthenes ridiculed those who placed their happiness in the ostentation of riches; yet they were no less vainly boastful in the display of their filth and raggedness: they ridiculed all who lived according to other men's opinions, and not to their own; and they pursued their maxims even to the disregard of the most natural and necessary decencies. In speaking of the business, pomps, and pleasures of the world, they were apt to use a satirical bitterness, that savoured more of spleen than of philosophical contempt. From their rude and slovenly manner of

life, and their snarling moroseness, they were known by the name of Cynics, or dog-philosophers. Of this sect was the celebrated Diogenes.

Far more important are those philosophers who grew up in the school of Plato; the Academics, headed by Speusippus, Plato's nephew, and Xenocrates, the Chalcedonian; and the Peripatetics (walkers), the followers of Aristotle, who was born at Stageirus, a Grecian city in Thrace. The former were named from the hall and grove of Academus, where Plato, and, after him, Speusippus, usually discoursed: the latter from Aristotle's manner of delivering his instructions while walking in the gardens of the Lycæum. The doctrines of both were nearly the same, for though Aristotle often opposes his master, Plato, it is commonly in points to which the Academics held but lightly, or which they entirely gave up. But the different character of the teachers variously affected their followers. Among many eminent names, the Academy had none which could rival those of Socrates and Plato; the first of whom was wont to say that, when the oracle styled him the wisest of men, it was because he knew that he knew nothing, while others thought that they knew much. These words have been interpreted by many as directing them to acquiesce in universal scepticism: but it is plain, from the general tenour of his discourses, that Socrates rather meant to produce in his disciples a patient search for truth, a due distrust in themselves, and a willingness to amend their most favourite conclusions, should subsequent inquiry prove it needful. However understood, the declaration betokens, both in the speaker and in the approving reporter, a disposition very different from that of Aristotle, whose vast and varied erudition and wonderful subtlety and acuteness were joined with a somewhat dogmatical temper, and a strong desire to give to his treatment of every subject an air of scientific completeness. Hence it comes that while the individual reputation of Aristotle was almost unrivalled, his school was comparatively barren of eminent men: whereas most of the greatest Grecian philosophers in after times are found in the Academy and its many off-sets. For among the followers of Aristotle, improvement has ever been trammelled by the opinion that they had in his works a perfect system of human knowledge: this made

them consent to explain and enforce his conclusions, without pursuing them farther or inquiring into their evidence; and sometimes rendered them loth to examine a questionable position of their master, lest by loosening a single stone of the connected fabric they should disjoint and weaken the whole.

The faults of Aristotle have probably contributed, as well as his merits, to the astonishing influence which his writings have exercised over ages so various and nations so widely scattered, as those in which his name has been regarded with an almost idolatrous veneration. He was, however, a man of understanding, at once the most comprehensive and the most discerning; the father of philosophical criticism; the ablest of Grecian speculative politicians; an acute and curious observer of all remarkable phenomena, whether in the material or in the intellectual world. In attempting to demonstrate the conclusiveness of demonstration, his logical works are essentially unphilosophical; but they are admirable as a classification of the forms which arguments may take, and the conditions necessary to render them conclusive. His power of systematic arrangement was indeed extraordinary, and the talent was accompanied by the disposition to riot in its exercise. This is peculiarly striking in his ethics, in reading which we can hardly fail to be impressed with the idea that, while Plato teaches men to feel and act, the object of Aristotle is rather to instruct them how to define and classify their actions. On abstract questions, especially of morals, he wants Plato's liveliness and distinctness of conception; and hence his treatment of such subjects is comparatively dry and barren. Inaccuracies are pointed out, and language and arrangement improved; but little is done to open the mind to the reception of truth. It is where outward observation furnishes the materials on which reason is to work, that his superiority appears; and the more in proportion to the complexity of the considerations embraced in the question. And here he is as pre-eminent, as Plato is, where the premises and the reasoning process are both from within. But these unfortunately are not the passages which have chiefly attracted his indiscriminating adorers: and hence, in those times when his authority has been most blindly revered; though his writings have often excited some degree of in-

tellectual activity among those whose minds would otherwise have slept in contented ignorance, they have often also misdirected that activity to unprofitable subtleties and idle verbal disquisitions.

CHAPTER X.

Of Greece, and of the Macedonian Empire, from the death of Alexander, to the death of Ptolemy and Seleucus, and the Invasion of Greece by the Gauls.

THE sudden death of Alexander seemed to leave his diadem as a prize to be fought for by his generals. A contest was threatened between different bodies of the army, but the wiser heads succeeded in effecting a peaceable settlement. Alexander had left two infant sons by Persian mothers, and a brother, Arrhidæus, whose weakness of mind unfitted him for rule, but whose claim was nevertheless supported by the body of the Macedonian infantry. It was agreed that Arrhidæus should take the kingly title, with the name of Philip, while Perdicas, an eminent general, held, as protector, the actual sway. The satrapies were distributed among the principal leaders, and mostly according to Alexander's appointment. Ptolemy was made the viceroy of Egypt, Antipater of Macedonia, Lysimachus of Thrace, Antigonus and Eumenes of different provinces in Asia Minor; all men of note in Alexander's wars, and about to become yet more remarkable in those which were waged to acquire distinct kingdoms for themselves.

The first commotion which disturbed the Macedonian empire arose from the Grecian colonies established by Alexander in Upper Asia. The settlers were mostly disabled soldiers, or such as, weary of a seemingly interminable warfare, which carried them daily into regions more remote, preferred a grant of lands, with immediate quiet, to the chance of one day revisiting their native country with the fruits of their successful valour. Many soon began to regret their choice, and to pine for Greece and Grecian customs and modes of living; and it was only the fear of Alexander which prevented their return. On hearing of his death, they generally quitted their dwellings, assembled in a body of twenty thousand foot and three thousand horse, and began their march. They were met by Pithon, who had been commanded by Perdicas to oppose

them, and had gladly undertaken it, hoping to win them to his interest, and to make himself powerful by their means. With the aid of treachery in one of their chiefs, he vanquished them in battle: and then he offered them permission, laying down their arms, to return to their dwellings. Oaths were mutually given and received, and the disarmed and defenceless Greeks mingled fearlessly among the Macedonians. But Perdicas, suspecting the secret purpose of Pithon, had strictly charged him to slaughter them, and to distribute the spoils among his soldiers: and the Macedonians, whether through obedience to the protector, or for the sake of the booty promised, fulfilled to the letter his bloody command, in defiance of their leader's wish, and of the faith just pledged.

Antipater was soon at war with a confederacy headed by the Athenians and Ætolians. The cause of quarrel was a promise given by Alexander, and entrusted to Antipater for fulfilment, to restore all Grecian exiles to their several cities. In many states this would shake the government, in some would overturn it: and suspicion and resentment were the more excited, as there could be no doubt that whatever power was vested in the restored exiles would be exercised by them in entire subserviency to Macedonia. Among those offended were the Athenians, who had recently colonised a part of Samos, which, if the measure of Antipater were carried through, they would be obliged to give up to the former owners. The richer part of them disliked the war, but the majority of the people approved it, and a vote was passed that the Athenians would assert the liberty of Greece, and free the cities which were held in awe by Macedonian garrisons. Fleets and armies were levied, and ambassadors sent to rouse the Greeks into action; and the Ætolians, Thessalians, Argians, and many others engaged in the enterprise. The Bœotians were bound to Macedonia by the possession of the Theban lands, which had been parcelled among them when the city was destroyed; and their defeat was the first exploit of Leosthenes the Athenian commander. Antipater, unable to raise an army equal to that of the hostile confederacy, tried one battle unsuccessfully, and then retiring to Lamia, a town of Thessaly, was there besieged by Leosthenes. In the course of the siege Leosthenes was killed, and Antiphilus succeeded him.

The place was strong, and well defended, but the garrison was already starving, when the eminent Macedonian general Leonnatus raised the siege. Having thus far attained his object, in the battle which ensued he was defeated and killed; and Antipater effected a junction with the beaten army, but still was weaker than his enemies. The scene was changed, when another army came up, under Craterus, the best, in Alexander's judgment, of all his commanders since the death of Parmenion. The Macedonians had already been twice victorious by sea, and they now attained a decided superiority on the land. Ambassadors came from the Grecian league to ask for peace; but Antipater refused a general treaty, and required that each state should negotiate separately; and the war being pushed on briskly, fear drove all the cities successively to make terms for themselves, leaving the Athenians and Ætolians alone in opposition. Antipater led his host to Athens. While he was shut up in Lamia, peace had been denied him on any terms but unconditional surrender. It was now the turn of the Athenians to sue for a capitulation, which Antipater refused to grant. Alike unable to stand a siege, and to obtain conditions, they gave themselves up to the conqueror's mercy, and their treatment was milder than they had reason to expect. They were left in possession of the city and its territory, and of all property, both public and private: but the democracy was abolished, and the poorer citizens entirely shut out from the powers of government. To such as wished to quit the city, Antipater offered lands in Thrace, and more than twenty-two thousand persons accepted the proffer. The rest remained untouched in person and property, but politically subjected to the privileged class of about nine thousand citizens, whose fortunes reached the standard fixed by Antipater. The laws of Solon were again adopted, as the rule of government, and all subsequent changes annulled. To guard against a counter-revolution, a Macedonian garrison was placed in Munychia, one of the ports of Athens: and Antipater having done these things returned into Macedonia. Thus ended what was called the Lamian war, in the year after the death of Alexander. (B. C. 322.)

The recovered ascendancy of the party hostile to Macedonia had led to the recal of Demosthenes: but Antipater's victory and approach to Athens again

obliged him to retire. A decree of the people was passed in his absence, condemning to death both himself and those associates who had fled with him. In ordinary cases this would only have operated as a sentence of perpetual banishment; but Antipater had been deeply and repeatedly offended by the fugitives, and his character was unforgiving. He sent emissaries to seize them in all the cities whither they had fled, and all who were arrested were brought to him and put to death. Demosthenes had passed into Italy, and taken refuge in a temple in Calabria; and being found there, that he might not fall into the hands of Antipater, he swallowed poison.

Of the many states so lately leagued against Antipater, the Ætoliæ only had not submitted; and they still held out, when the Macedonian leaders entered their country at the head of an army such as they could not cope with in the field. The weaker towns were abandoned, the stronger garrisoned and provided for a siege, while the mass of the people retired to the mountains, where bold and active men, acquainted with the country, might readily foil the powerful but cumbrous phalanx of the enemy. The Macedonians attempting to drive them from their fastnesses were repulsed with loss; but Craterus prudently gave up the endeavour, and prepared to quarter his troops for the winter in the open country. The case of the Ætoliæ now seemed hopeless. Remaining among the barren and snowy heights, unprovided and unsheltered, they might perish with cold and hunger: coming down into the plain they must fight and be beaten, for their enemies were far superior in numbers as well as in discipline and in the ability of their commanders. Submission, therefore, seemed inevitable, till they were unexpectedly relieved by news arriving from Asia.

Perdiccas seeking, while his ascendancy was doubtful, to connect himself closely with Antipater, had asked and obtained his daughter in marriage. His ambition, however, had risen with his fortunes, so that he now aimed at nothing less than the royalty of Macedonia and its conquests; as a step towards which he wished to put away his wife, and marry Cleopatra, the sister of Alexander. Aware that Antigonus, a friend of Antipater, and an able soldier and statesman, had penetrated his design, and was likely to oppose it, he endeavoured to destroy him by false accusations. Antigonus escap-

ing to Europe, carried his tale to Antipater and Craterus, who made a hasty peace with the Ætoliæ, and prepared for war with Perdiccas. They allied themselves with Ptolemy, who was no less threatened than themselves. Perdiccas went in person against Ptolemy, but he sent a powerful army against Antipater, under Eumenes, an excellent officer, who had formerly been Alexander's confidential secretary.

Eumenes found the enemy already in Asia, but he succeeded in falling on the division of Craterus when separated from the rest. Craterus fell in the battle, and his army was defeated; but this success came too late to benefit Perdiccas. That commander's Egyptian campaign had been tedious and unsuccessful, and time was given for his troops to scan the characters of the rival leaders, and to draw conclusions far from being favourable to their own. Perdiccas was violent, arbitrary, and often cruel; Ptolemy, mild and affably kind to his followers, and, at least by comparison with Perdiccas, liberal to his enemies; he was also, like Alexander, remarkable for prowess as a combatant, and habitually profuse in the exposure of his person, qualities ever highly conducive to the popularity of a general. The result was discontent in the army of Perdiccas, which increased with every new delay and failure, and rose at length to such a height that Perdiccas was assassinated in his tent. The troops transferred their obedience to Ptolemy, and the news of Eumenes's victory, which arriving sooner would probably have prevented their revolt, now only produced a vote of death to Eumenes, and to fifty of his officers.

For a short time after this, Eurydice, the wife of king Arrhidæus, and niece of Philip, contended for power with Pithon, whom the soldiers had chosen protector in conjunction with another general. Pithon, finding himself the weaker, resigned his office; but Antipater, being elected sole protector, quelled the intrigues of Eurydice. He then made a new allotment of various satrapies, whereby Babylonia was entrusted to Seleucus, and Susiana added to the former commands of Antigonus, who was also appointed to conduct the war against Eumenes, with the authority of captain-general of Asia Minor, while Antipater, with Arrhidæus, fixed his residence in Macedonia. Antigonus defeated Eumenes in a great battle, and

obliged him to take refuge with a scanty band of followers in the strong hold of Nora, where Antigonus besieged him, having first suppressed the remaining friends of Perdiccas. The siege was long protracted by the resolution and ability of Eumenes, and still continued, when the death of Antipater gave a wider field to the ambition of Antigonus. (B. C. 318.)

Antipater left the regency to Polysperchon, one of the oldest of Alexander's surviving generals. This was highly displeasing to Cassander, Antipater's son, who had himself expected to succeed to it; but his party being too weak for open resistance, he escaped into Asia, and besought the aid of Antigonus. Both Antigonus and Ptolemy promised their assistance, professedly through friendship for his father, but really to promote their own aggrandisement and secure their independence by embarrassing Polysperchon, and weakening the general government.

In the Grecian towns which had been garrisoned by Antipater, or in which the constitution had been altered and the ruling party changed by him, the leading men mostly favoured Cassander. Polysperchon therefore undertook to make these states his own by undoing all that Antipater had done. He proclaimed himself the patron of universal independence; re-established democracies in place of the oligarchies set up by Antipater, and recalled the exiles banished for opposing him. Moreover, he procured that the chief partisans of Antipater, in each state, should suffer exile, confiscation, or death, though it was to Antipater chiefly that he owed his present greatness. His party was strengthened by the accession of Eumenes, and of Olympias, the mother of Alexander, a violent woman of some ability, and an inveterate enemy of Antipater and his son.

Since Athens submitted to Antipater, a Macedonian garrison had constantly held Munychia. We have seen several instances of a like proceeding, and particularly in the occupation of the Athenian citadel by the Lacedæmonians during the tyranny of the Thirty, and of that of Thebes, after the treachery of Phœbidas. In both these instances, the object was at once to ensure the ascendancy of a ruling party, friendly to the foreign power, which maintained the garrison, and to keep the city not only in alliance, but in a kind of subjection.

Accordingly the troops were commandingly posted in the Acropolis, and all political measures were concerted with the Lacedæmonian commander, and carried through by his support. But the present government of Athens was on a different footing. The chief authority remained with Phocion, who was recommended by his superior character and talents, and by the high esteem in which he was known to be held by Antipater. He was not a person likely to aim at power by holding his country in subjection to foreigners; but it is probable that the mildness of the terms which were granted to the city was chiefly produced by respect to Phocion, and by the wish to settle affairs in such a manner, that he and his friends might honourably exercise the powers of government. The party of Phocion was the weaker in numbers, and that weakness was the more dangerous, as in the turbulent times which had just been passing, both the authority of the laws had been considerably shaken, and the character of the people deteriorated. In these circumstances the greater part were probably not unwilling that a force should be at hand, which might encourage their friends, dishearten their enemies, and, perhaps, turn the scale, should it be necessary, in case of sedition or civil war. And if Phocion himself, or any others of the sterner patriots among them, disliked an arrangement which trenchd so far on the independence of their country, they would nevertheless be obliged to submit to it, as the only means of giving to Antipater that confidence in the stability of their government, which would induce him to abstain from harsher measures of coercion. But the Macedonian force was posted neither in the city, nor in Peiræus, but in one of the inferior ports; its commander was not consulted in any measures of the government, nor were his troops employed in carrying them into effect; and their presence was only designed as a security to Antipater against the danger of hostility on the part of the government, and to the government, against that of popular insurrection.

Immediately on the death of Antipater, and before it was known at Athens, Cassander had sent Nicanor, an officer entirely devoted to him, to take the command of the garrison in Munychia. When the breach with Polysperchon

had become decided, Nicanor urged the Athenian people to remain in friendship with Cassander; but the support of the new protector had again given courage to the democratical party, and the answer made was a requisition to withdraw his troops, according to the royal proclamation. He persuaded them to grant a few days respite, during which he secretly gathered strength to stand a siege. The Athenians sent ambassadors to ask for aid of the king and Polysperchon, and held repeated assemblies to deliberate on the conduct of the war; but Nicanor in the mean time raised a powerful force of mercenaries, and, issuing one night unexpectedly from Munychia, made himself master of Peiræus. The Athenians now appointed an embassy, with Phocion at its head, to require that Nicanor would desist from his aggression, and restore to them their independence, as the king had commanded. Nicanor at first referred them to Cassander, under whose authority he was acting; but when their demand was backed by letters from Olympias, and by the approach of an army under Alexander, the son of Polysperchon, he became alarmed, and promised to evacuate the place. He delayed, however, to perform his promise, and Alexander arriving, soon proved that his intention was not to restore their ports to the Athenians, but to retain them for himself. Meanwhile the Athenian people held an assembly, with every circumstance of tumult and confusion, in which they voted the complete re-establishment of democracy, and the death or banishment of all who had borne office in the oligarchy, of whom the most conspicuous was Phocion. The exiles fled to the camp of Alexander, and were sent by him to his father's court, and recommended to his favour. They were followed thither by an Athenian embassy, sent to accuse them, and to demand their surrender. Polysperchon had now repented the treachery which he had meditated against the Athenians, but which shame and fear had prevented him from fulfilling, and he hoped by a second act of baseness to soften the resentment excited by the first. He gave up the fugitives, in words, to stand their trial, but, in truth, to perish by the party fury of their bitterest enemies. When the victims were brought before the assembly, their voices were drowned by the clamour of their judges, who were mostly of the persons

newly restored to a share in the government, from which they had been excluded after the victory of Antipater. Every one was hooted down, who attempted to speak in favour of the accused, and a tumultuous vote was passed, condemning all the prisoners to death. They were for the most part men of distinguished rank and respectable character, and while their hard fate affected many with pity and consternation, there were others who vented in insults that envious malice which, while its objects were in prosperity, had been prudently suppressed. One of these wretches is said to have spit on Phocion, as he was led to prison; but the outrage failed to ruffle the composure of the captive, who only looked towards the magistrates, and asked—"Will no one stop this man's indecency?" Before he drank the hemlock, he was asked if he had any message for his son; he replied—"I bid him cherish no resentment against the Athenians." Thus perished a statesman and warrior of eminent ability; but far more remarkable for the rarer gift of determined uprightness. The Athenians soon repented of their deed; they erected to him a statue of brass, and honoured with a public funeral his remains, which had at first been cast out unburied. His principal accuser was put to death, and the others driven into exile; the people hoping, as in many other instances, to atone for their crime by punishing their advisers.

Shortly afterwards Cassander landed in Peiræus, with four thousand soldiers. He was there besieged by Polysperchon, who soon, however, found himself in want of provisions to maintain his army; and therefore, leaving a division of his forces at Athens, he proceeded with the greater part into Peloponnesus, in the hope of enforcing the obedience of the Megalopolitans, who were warm supporters of Cassander. Meanwhile Cassander sailed against the Æginetans, and readily brought them over to his party. The Salaminians, refusing compliance, were besieged and brought to extremity, when Polysperchon sent an armament, which obliged Cassander to retire. The protector then returned into Peloponnesus, and called a meeting of the cities, and to such as did not attend it he sent ambassadors. He offered alliance to all, on the conditions that they should establish democracy, and put to death their oligarchical

rulers established by Antipater. The greater part immediately entered on a course of bloody executions; the friends of Antipater were slain or banished; democracy was everywhere embraced, and with it the alliance of Polysperchon. The Megalopolitans alone firmly clung to the party of Cassander; they secured their moveables within the city, strengthened their walls, enrolled and numbered the inhabitants, both slaves and free, and appointed to each his particular province in the defence; they did all, in short, which befitted resolute men when preparing to be besieged by an enemy of overwhelming force. The Macedonian host was highly formidable both by numbers and discipline; and it was well provided with skilful engineers. A breach was effected, and desperate attempts made to carry it; but all were foiled by the courage of the besieged, and the able conduct of their leader. The besiegers had elephants, which are now first mentioned as used in Greece, though they had long been common in the wars of Asia. The approaches to the breach were levelled, and it was attempted to force a passage with the elephants; but spikes had been set to pierce their feet, and prevent their advancing, while they were plied with darts till many fell, and the rest recoiling trampled down their employers,—a danger which has always attended the use of such uncertain auxiliaries. In the end Polysperchon was obliged to raise the siege, and attend to matters of deeper interest. His failure determined most of the Grecian cities to seek the friendship of Cassander. The Athenians, unable otherwise to recover their ports, negotiated for peace, and peace was made on the terms that they should enjoy their city and territory, with all their ports, except Munychia, which Cassander should hold during the war; that he should nominate an Athenian citizen to be at the head of the administration; and that all, whose property fell short of ten minæ (about 34*l*.) should be excluded from the government.

The conduct of Polysperchon had been but weak, and the queen Eurydice appears to have succeeded in that which was her constant endeavour, to supplant him in the management of her feeble husband, and the government of Macedonia. To recover his lost power, he brought Olympias into play. He advanced with her into Macedonia, and Eurydice and Arrhidæus led their forces

to oppose him; but the Macedonians refused to fight against the mother of Alexander, and Eurydice and her husband fell into the power of Olympias. She mercilessly abused her success; the royal captives were put to death, with circumstances of studied cruelty; and the chief friends of Cassander were sought out for slaughter, including his brother, with a hundred of the most eminent Macedonians. But the hour of vengeance was not far off. Cassander had been united with Eurydice, by the closest friendship certainly, and, if prevailing report be trusted, by unlawful love. He was now hastening to avenge her death, and that of his brother and friends. By vast activity he made his way into Macedonia, though great endeavours had been made by the friends of Polysperchon to occupy the passes. The barbarity of Olympias had disgusted the Macedonians, and she now obtained from them but little support. She was besieged through the winter in Pydna, and in the spring the town was obliged to submit, and Olympias surrendered, only stipulating for her life.

The sequel is an abominable tissue of treachery and murder. Amphipolis still held out for Olympias, and it was only by her bidding that Aristonous, the commander, was induced to surrender the place. The high character of Aristonous excited apprehension in Cassander, who had adopted the base policy of destroying all whose ability was such that their opposition might be dangerous. He procured the death of Aristonous; and then proceeded by dark and crooked ways to fulfil his revenge against Olympias. Some of the kindred of those whom she had murdered were prevailed on to accuse her in the Macedonian assembly; she was absent, and had none to speak for her; and the assembly condemned her to death. Cassander sent some of his own friends to advise her to secret flight; he offered to provide a ship which should convey her to Athens; and this he did that, by her flight, she might appear to acknowledge the justice of her sentence, and might then be put to death in the course of the voyage. She refused to escape, and demanded to be heard in her defence before the assembled Macedonians; but Cassander, dreading the effect of her presence, withheld his consent. He then selected two hundred soldiers to dispatch her; they entered the house, but on seeing her their resolution failed, and they

retired. At length the execution was performed by the kindred of her victims. She died with the greatest firmness. (a. c. 315.)

Cassander was now the undisputed lord of Macedonia, and, to confirm his ascendancy, married Thessalonica, the daughter of Philip, and half sister of Alexander. As a permanent memorial of his greatness he founded a city in the peninsula of Pallene, and named it Cassandreia. He transported thither the inhabitants of Potidæa and of several neighbouring cities, and there he planted the remnant of the unfortunate Olynthian people. The territory allotted to the settlement was large and fruitful; it grew and flourished, and became the most powerful of the Macedonian cities. Cassander also rebuilt Thebes in the twentieth year after its destruction by Alexander, many Grecian states, and especially Athens, assisting in the work.

On learning the death of Antipater, Antigonus had attempted to win over Eumenes to his interest, and had offered as the price of his support to restore his satrapy and to grant him yet higher honours than he had before enjoyed. While the negotiation was pending, Eumenes escaped from Nora, and again made head in Cappadocia: and when Polysperchon had been declared protector, and Antigonus had openly disclaimed the royal authority, Eumenes, having declared himself in favour of the king Arrhidæus, and of Polysperchon who then governed in his name, was appointed commander in chief of the royal forces, and soon found himself again at the head of a powerful army. His situation was still very difficult and dangerous. Eumenes was a Thracian Greek, of Cardia in the Chersonese, and the pride of the Macedonian officers and soldiers ill brooked to be commanded by a foreigner; nor was it likely to be forgotten, in any time of discontent, that he had already been condemned to death by a vote of the army. The means which he took to mitigate the envy attaching to his station curiously illustrates the character of the age and of the people. He declined a present of five hundred talents offered by the king, on the ground that he did not need it, for he wished not to be placed in any situation of power or splendour, but had unwillingly accepted his present command in compliance with authority which he was bound to obey. He then

related a remarkable dream. He had thought, he said, that he saw king Alexander sitting on his throne, and issuing orders to his generals: and from thence he gathered the direction that a golden throne should be set forth, with the diadem, and sceptre and other ensigns of royalty; that sacrifice should be performed to it, as if the deified spirit of the departed hero were actually there present; that all councils of war should be held before the throne, and all commands issued in the name of Alexander, as if he were living. The proposal was adopted. The load of envy that weighed on Eumenes was greatly lightened when the orders ran not in his name, but in that of Alexander. The affections of the Macedonians were gratified and their superstitious hopes excited by the imagination that they were warring under the patronage and guidance of their late invincible king: and the advantage which Eumenes had gained by adroitly practising on the superstition of his followers, was so improved by his uniform affability and courtesy, both to chiefs and soldiers, that he soon brought the army into a temper favourable to cheerful obedience and zealous service, and long maintained them in it, in spite of several attempts to stir up mutiny which were made both by Ptolemy and Antigonus. The war was continued through several campaigns, with various success, and with signal proof of ability in both the opposing leaders. But Eumenes was surrounded with chiefs who were inclined to dispute his authority, and whose influence in the army was greater than his own; and not all his skill could for ever convert jealous rivals into obedient lieutenants. By the desertion of one of his principal officers, he lost a battle when the victory seemed within his grasp: and in the following night, while he was urging the division of his troops which had been victorious to try the fortune of another struggle, they secretly negotiated with Antigonus, and made their peace by betraying their commander. He was delivered to Antigonus, and soon after put to death. This happened in the same year with the death of Olympias.

The grasping desires of Antigonus now knew no bounds, and to gratify them he spared neither treachery nor blood. Pithon, the satrap of Media, lured into his power by professions of friendship, was accused, condemned, and executed. Seleucus the ruler of Baby-

lonia had served him eminently in the war, but this did not prevent Antigonus from seeking to despoil him. He led his forces to Babylon, where they were entertained in the most friendly manner. On arriving he demanded an account of the revenues arising from the province. Seleucus replied that he owed him no account for the government which had been freely given to himself by the Macedonians in reward for his services in the wars of Alexander. A quarrel ensued, and Seleucus, warned by the fate of Pithon, saved himself by flight. He arrived in the court of Ptolemy, who received him with all kindness; and a league was quickly formed between Ptolemy, Lysimachus, Cassander, and Seleucus, to curb the threatening ambition of Antigonus.

It is needless to dwell on wars in which there was no political principle in question, nor any object even of national ambition: in which the lust of personal aggrandisement deigned not even to veil its gross features with the flimsy cover of narrow and exclusive patriotism; but subject millions were only considered as the counters and the stake in the game of conquest, and provinces with their inhabitants were lost and won, as if they had been estates with the live stock required for their cultivation. In Greece, indeed, disorganized as it had been by the frequent interference of Macedonian kings and generals with its political relations, it was still necessary to make pretence of some attention to the public good. Each contending potentate proclaimed aloud to the Greeks that he fought to free them from the tyranny of his opponent; each found a party to support him in various cities: for in every state there was war without and strife within, with the certainty that whether the friends of Cassander prevailed or those of Antigonus, they would be equally bound down in unlimited subserviency to their too powerful ally.

Hostilities were actively carried on by land and sea, in Europe and in Asia, and many battles fought with various changes of success and defeat. The party of Antigonus gained ground in Greece; and in Peloponnesus particularly, as well as in Bœotia and Locris, it became decidedly superior. Meanwhile, Antigonus being employed in pursuing the war in Greece and in Asia Minor, the defence of Syria was entrusted to Demetrius his son, a youth of great

spirit and ability. In the third year of the war, (B. C. 312.) Demetrius was completely defeated at Gaza by the forces of Ptolemy and Seleucus. The opportunity was inviting, and Seleucus resolved to attempt the recovery of his satrapy. He had been, like Ptolemy, honourably remarkable among the chiefs of his time for mildness of character and attention to the welfare of his subjects: and so confident was he in his popularity among the Babylonians, that if Ptolemy had been unwilling to furnish troops for the enterprise he would have gone up attended only by his sons and personal friends. As it was, he carried with him but eight hundred foot and two hundred horse; but the people flocked from all sides to his standard; he soon became master of the province, almost without resistance, and then went on to conquer the neighbouring satrapies of Susiana and Media—so rapid and easy was his change from a destitute wanderer to a powerful prince, from a mere dependant of Ptolemy to a valuable ally!

At the time when the Athenians agreed to receive as their governor a citizen of their own who should be nominated by Cassander, Demetrius of Phalerum, one of the smallest ports of Athens, was chosen to the office, which he exercised with great moderation and benevolence. The government continued in the form in which it was then established till the year B. C. 307, when Demetrius the son of Antigonus arriving in Greece with a powerful fleet and army, and with a commission to liberate all the cities, but especially Athens, commenced his operations by making himself master of Peiræus. The majority of the Athenian people was already friendly to Antigonus, from whom they expected the restoration of democracy: it was vain to resist, and Demetrius the Phalerean consented to go at the head of an embassy to the son of Antigonus. He stipulated according to his instructions for the independence of the commonwealth, and personally also for safety to himself: and both demands being granted, he retired with a safe-conduct to Thebes, and afterwards to the court of Ptolemy, where he employed himself in literary pursuits during the remainder of his life.

Demetrius, the son of Antigonus, being admitted into Athens, invested Munychia, which was still held by the soldiers of Cassander. An accomplished commander in every respect,

he was especially remarkable for inventive genius as an engineer, and skill in conducting sieges, insomuch that he was popularly distinguished by the title of Poliorcetes, signifying The Besieger. Munychia, though a place of great strength and well defended, was soon taken; and Demetrius completed his work of giving freedom to Athens by demolishing the fortress which had held it in subjection. The democracy was re-established in the fifteenth year after its suppression by Antipater: and the people went on to express their gratitude by extravagant honours paid to Demetrius and his father. Golden statues of them both were set on chariots near to those of Harmodius and Aristogeiton; massive golden crowns were voted to them, and altars erected at which they were honoured as gods, and with the title of saviours: and as every Athenian ward (*phyle*) had its protecting hero after whom it was named and to whom its members paid a peculiar worship, two new wards were added to the ten already existing, and were named respectively after Antigonus and Demetrius.

Demetrius now, in obedience to instructions sent by his father, called a meeting of deputies from the allied cities to take counsel for the interests of Greece, and himself proceeded to dislodge the forces of Ptolemy from Cyprus. He had defeated the opposing army there, and shut it up in the city of Salamis, when Ptolemy came in person with a powerful armament to the aid of his officers. A great and well contested sea fight ensued, in which Ptolemy being defeated withdrew to Egypt, and gave up the island. On receiving the news of this great success, Antigonus and his son assumed the kingly diadem, and the example was followed by Ptolemy, Lysimachus, and Seleucus, (B. C. 306.) In the following year Antigonus attempted to decide the war by invading Egypt: but the maritime coasts and the banks and mouth of the Nile were so strongly guarded and actively defended, that his fleet could not make good a landing nor his army force the passage of the river, and he was obliged to retire with loss.

The island of Rhodes had anciently been divided among three cities, Lindus, Ialysus, and Cameirus; but towards the close of the Peloponnesian war the inhabitants had united themselves in one city, and called it by the name of the island. They were oligarchically governed, when under Lacedæmonian supremacy; democratically,

when under Athenian; but the state flourished under both. When Rhodes combined with Chios and Byzantium in revolt against the Athenians, the democracy seems to have been still maintained: but after the termination of that war it was overthrown by an insurrection of the wealthy Few and their adherents, assisted by Mausolus the king of Caria. Under its new government, Rhodes continued to increase in trade and shipping: from which it may be inferred that the administration was not inattentive to the wishes and interests of the people; for maritime power always strengthened the popular party, and a jealous and arbitrary oligarchy would therefore have discouraged rather than favoured the growth of the navy. We are told, indeed, in one fragment of a contemporary historian (Theopompus, quoted by Athenæus,) that there was a time when all power was in the hands of a small knot of profligate men, who supported each other in every outrage which their fierce passions or brutal caprices could prompt. It is stated that they actually played at dice for the chastity of virgins and matrons, and that the condition of the game was that all should assist the winner to gratify his lust either by persuasion or violence. But whatever chances may have enabled a small faction to exercise for a while so hateful a tyranny, it must have quickly fallen, and the government have reverted to the great body of citizens having certain qualifications of birth and property. In the ordinary state of the Rhodian aristocracy, its conduct was moderate and upright; so we are told by ancient writers, and their testimony is confirmed by the prosperity of the commonwealth, and by its continual increase in commercial wealth and naval power. When all the Grecian seas were swarming with pirates, the Rhodians alone for the common good undertook and effected their suppression. They were highly respected by Alexander, though he kept a garrison in their city, which, on receiving the news of his death, they immediately expelled. As the Macedonian supremacy appears to have been generally favourable to oligarchy, notwithstanding the patronage which Alexander, in the outset of his career, found it expedient to bestow on the democratical interest in Asia Minor, it is probable that this change was accompanied with an increase of power in the great body of the

people. The Rhodians stood aloof from the quarrels of the chiefs who divided the empire of Alexander, and kept friendship with them all, thus enjoying peace when every other state was at war. This could not last for ever. Their habits and interests, especially inclined them to close connection with Ptolemy and Egypt: and though they avoided giving any just cause of offence to Antigonus, his violent spirit would be satisfied with nothing short of unqualified support. This being refused, he commissioned officers to seize the Rhodian traders bound for Egypt; and when the execution of the order was resisted, he prepared an armament against the island. The Rhodians endeavoured to pacify him by compliments and submissions, but finding him inexorable they made ready for defence.

In the year which followed the attack of Antigonus on Egypt, (B. C. 304) Demetrius laid siege to Rhodes. The Rhodians sent to solicit the aid of Ptolemy, Lysimachus, and Cassander, and took measures to increase to the utmost their military force, and to unite the hearts and quicken the zeal of all who were in the city. Strangers and foreign residents were invited to join in the defence, but all unserviceable persons were sent away. It was voted that slaves, who fought with courage and fidelity, should be purchased from their masters, emancipated, and made citizens; that every citizen, who fell in battle, should have a public funeral; that his surviving parents should be supported, and his children educated by the state; that marriage portions should be given to his daughters, and a suit of armour publicly presented at the feast of Bacchus to each of his sons on coming of age. The rich men freely gave their money, the poor their labour, the artificers their skill; all strove to surpass each other in zeal and exertion. The besieging army was numerous and disciplined, well supplied, and well appointed, and provided with every variety of warlike engines which the science of the age and the mechanical genius of the commander could furnish. Assaults were made by land and sea, in various fashions and with various success; but no decisive advantage could be gained over the resolute and active defenders of the city, who not only kept the walls, but made several vigorous sallies, in some of which they succeeded in destroy-

ing many ships and engines of the besiegers. Demetrius at length gave up the hope of successfully attacking them from the sea, and turned all his attention to his operations on the side towards the land. The Rhodians, taking advantage of this to employ their ships in distant cruises, made prize of many vessels belonging to Antigonus, and intercepted some convoys, which were coming to the enemy's camp. Meantime the siege was pressed by land, and the walls were shaken in many places, all which the Rhodians made good by new defences built within; and just as they were beginning to be discouraged by the power and perseverance of their adversary, their confidence was renewed by the arrival of an Egyptian fleet, with supplies in great abundance.

The siege was protracted for a year. A second fleet was sent by Ptolemy, which brought large supplies, and a considerable reinforcement of troops. Ambassadors came from Athens, and from many other Grecian states, to intreat that Demetrius would be reconciled with the Rhodians. He yielded so far as to grant a suspension of arms, and commence a negotiation; but the terms could not be agreed on, and the war was renewed. He then attempted a surprise by night. Under cover of the darkness, a chosen body of soldiers entered the town through a breach which had been made; and the rest of the army supported them at day-break by a general assault on the walls. But the Rhodians were cool and firm. All who were defending the ramparts remained at their posts, and made them good against the enemies without; while the rest of the citizens, with the auxiliaries from Egypt, went against those within the city. In the violent contest which ensued the townsmen were victorious, and few of the storming party escaped out of their hands.

Letters now came from Antigonus, directing his son to make peace with the Rhodians, on what conditions he could; and Demetrius accordingly wished for an accommodation on any terms that would save his credit. The Rhodians were no less anxious for peace; and the more so, as Ptolemy had written to them, promising further aid in case of need, but advising them to put an end to the war on any reasonable conditions. Peace was soon concluded on the terms that the Rhodians should be independent, and should retain all their reve-

nues; but that they should assist Antigonus in all his wars, excepting against Ptolemy, and should give one hundred hostages, in pledge of fidelity to their engagements. Thus released from danger, the Rhodians proceeded to fulfil their promises, and reward those who had served them well. Fit honours were bestowed upon the bravest combatants among the free inhabitants, and freedom, with citizenship, given to such of the slaves as had deserved it. Statues were erected to Ptolemy, Lysimachus, and Cassander, all of whom had assisted them largely with provisions. To Ptolemy, whose benefits had been by far the most conspicuous, more extravagant honours were assigned. The oracle of Ammon was consulted, to learn whether the Rhodians might not be allowed to worship him as a god; and, permission being given, a temple was actually erected in his honour. Such instances have already occurred in the case of Alexander, and in that of Antigonus and Demetrius at Athens; but it must be remembered that such a practice would not bear, in Grecian eyes, the same unnatural and impious character which it does in ours, since the step was easy from hero-worship, which had long formed an important part of their religion, to the adoration of distinguished men, even while alive.

Demetrius sailed to Greece to oppose Cassander, expelled his garrisons from Sicyon and Corinth, and from many other important places, and assembled a congress at the Isthmus, by which he was elected captain-general of the Greeks. He had generally the people in his favour; so that his conquests were easy and sure, and he had seldom occasion to weaken his army by garrisons. Meanwhile Cassander and Lysimachus planned an expedition against Antigonus, and Lysimachus, leading an armament into Asia, gained considerable successes; while Cassander remained in Thessaly to check the progress of Demetrius, Lysimachus was obliged by the approach of Antigonus to act on the defensive, while Seleucus was coming down from Upper Asia to help him; but he contrived at the approach of winter to withdraw his army from the camp in which it was besieged by Antigonus, and Antigonus declining to follow him, the three kings dispersed their forces into winter-quarters.

In the following year (B. C. 301) the three kings again took the field, and Demetrius having been recalled from Greece to join his father, a decisive action took place near Ipsus in Phrygia. The armies were nearly equal, and the victory was hotly contested; but in the end Antigonus was slain, and his army completely defeated. The victors proceeded to divide the possessions of Antigonus; but Demetrius escaping, marched to Ephesus with five thousand foot and four thousand horse, and thence embarked for Athens, where he had left the chief part of his navy and his treasure. To the gratitude of the Athenians he trusted for a refuge, and for assistance in the recovery of his fortunes; and the most bitterly felt of all his present mortifications was when he was met by Athenian ambassadors, who requested that he would not approach their city, since the people had voted, not to receive within it any of the contending monarchs. But he suppressed his resentment, and sent to request the restoration of his ships and money, which having obtained, he employed them in a desultory warfare against Lysimachus.

Seleucus had now transferred to Lysimachus the jealousy, of which the fallen fortunes of Demetrius could no longer be the object; and hearing that Lysimachus and his son had each received in marriage a daughter of Ptolemy, he thought it would conduce to his security to marry Stratonice, the daughter of Demetrius. He also reconciled Demetrius with Ptolemy, and procured that he should marry Ptolemy's daughter; but the concord existing between Seleucus and his father-in-law was soon destroyed by a quarrel relating to Cilicia, which Demetrius had recently conquered from Pleistarchus, the brother of Cassander, and which Seleucus wished to purchase from him.

Since the Samian war the Athenian government had been completely disordered by the number of revolutions through which it had passed, and which had mostly been effected by foreign interference. There had recently been struggles within the city, in which one Lachares had obtained the supremacy as tyrant; and through the present confusion and weakness of the state Demetrius hoped to make himself its master. Having failed in his first attempt, he gathered powerful reinforcements, again blockaded the city, and reduced it to

extremity by famine. He defeated a fleet which Ptolemy, who was now again at variance with him, had sent to relieve the place, and obliged the Athenians to submit themselves to his mercy; but he made use of no severities, and contented himself with securing their obedience by a garrison. He defeated the Lacedæmonians near Mantinea, and penetrated to Sparta; but in the midst of his successes he received the alarming news that all his cities in Asia had been taken by Lysimachus, and all in Cyprus, excepting Salamis, by Ptolemy.

Another field of action now was opened by the death of Cassander (B. C. 296) and the quarrels of his sons, Antipater and Alexander. The mother, Thessalonice, favouring Alexander, was murdered by Antipater; but Alexander called to his aid both Demetrius and Pyrrhus, the young king of Epirus, and Antipater flying to the court of Lysimachus, whose daughter he had married, was, notwithstanding their connexion, put to death by him. Before the arrival of Demetrius, Pyrrhus being nearer had performed the service, and had rewarded himself with a considerable portion of the Macedonian kingdom. Demetrius's coming was now unwelcome to his ally; and jealousy arising between them, Alexander attempted his life, but was counterplotted and slain, and Demetrius obtained the kingdom of Macedonia.

Most of Greece was already in the interest of Demetrius; and he twice conquered the Bœotians, who were hostile to him, and twice took the city of Thebes, though not without a vigorous resistance, in the course of which he was severely wounded. But his most formidable enemy was Pyrrhus, a restless prince, but a brave and skilful commander. He was a descendant of Achilles, and a kinsman of Alexander; and his greatest ambition was to emulate the deeds of those celebrated blood-shedders. His signal proofs of warlike ability had won him the hearts of the Macedonians, which Demetrius had forfeited by haughtiness, licentiousness, and insolent contempt of the feelings of his people. Yet so dreaded by the other monarchs were the talents and spirit of Demetrius, that Seleucus, Ptolemy, and Lysimachus combined with Pyrrhus to crush him. In the sixth year of his reign, his kingdom was at once invaded on different sides by Lysimachus and Ptolemy. He found that he could not trust his soldiers

against Lysimachus, and he, therefore, led them against Pyrrhus; but they soon broke out into open mutiny, and Demetrius was obliged to steal away in the habit of a common soldier; while Pyrrhus, coming up, received the submission of his army, and easily occupied his kingdom. (B. C. 287.) Demetrius sailed into Asia, hoping to gain some of the provinces of Lysimachus, but his forces were insufficient, and after a toilsome campaign he was driven into Cilicia, which belonged to Seleucus. Hence he wrote to Seleucus calling to mind their affinity, and intreating pity for his fallen condition: but after considerable hesitation Seleucus's compassion yielded to his fears and jealousies, and he led an army against his father-in-law. Demetrius defended himself with the fury of despair, and in most encounters had the advantage; but he was at length deserted by his soldiers, and made prisoner. He was closely confined, but otherwise honourably treated, for the rest of his life, which was shortened by intemperance. Such was the end of a man, whose talents, courage, and natural generosity of disposition, if chastened by temperance, and directed by philanthropy, would have made him truly glorious; but whose rare gifts were alternately drowned in boundless debaucheries, and perverted to the purposes of selfish and wasting ambition.

Pyrrhus was driven from Macedonia, after seven months' possession, by Lysimachus, who held it five years and a half, at the end of which he fell in battle against Seleucus. Both Ptolemy and Demetrius had died in the year preceding this event, and in that which followed it Seleucus was assassinated by another Ptolemy surnamed Ceraunus, who had fled to his court from that of Lysimachus, and had been most kindly entertained. The year of Seleucus's death (B. C. 280) was also that when Pyrrhus passed into Italy, to assist the Grecian colony of Tarentum against the Romans, and it was the same in which the Achaian league first revived, a portion of history which will form the subject of part of the next chapter.

Seleucus was killed in the course of an expedition to take possession of the kingdom of Lysimachus; and the murderer seized on Macedonia, and held it till he was slain in battle by the Gauls, which took place sixteen months after the death of Lysimachus, and nine after that of Seleucus.*

* See CLINTON's *Fast. Hellen.*

These barbarians were sprung from that vast portion of the European continent, which extends from the Rhine to the Pyrenees, and from the Alps to the ocean, and comprises France and the Netherlands. They were a turbulent and warlike race, little skilled in the arts which minister to human subsistence. If such a people outgrew their territory, their resource was not to increase its fertility by more artful and laborious culture, but rather to supply their wants at the expense of others, by rapine, conquest, or emigration. When their tribes were mutually unconnected, the result must have been a state of continued disquiet, like that of early Greece already described. Large bodies of men were seeking for abodes; the fugitives from one place were the conquerors in another; and the commotion lasted till the sword had destroyed the excess of population, or till some channel was opened for its removal. Such a vent was often found in the military service of foreign states; and Gallic mercenaries were much employed, especially by Carthage. But the spirit of migration took a different form, when large tracts were united under a single government. If an outlet were then to be provided for an overflowing population, wider conquests were necessary, and greater power was collected to achieve them. From every neighbouring state the needy and the ambitious flocked to the hope of brilliant enterprise and eligible settlements; and all were poured in one gathered stream upon remoter and more cultivated regions. Many instances of this are to be found both in Oriental and in Roman story; but the most memorable of all are contained in the history of those northern hordes, by whose invasions the Roman empire was finally overthrown.

Such a crisis is said to have arrived in Gaul about the year B. C. 588, when the largest part of it was subject to the tribe of the Bituriges and their king Ambigatus. Two mighty hosts of emigrants were formed, under the king's two sons, Bellovesus and Sigovesus. Bellovesus crossed the Alps. Fresh swarms of adventurers quickly followed, and all the north of Italy was conquered, and received the name of Cisalpine Gaul, or Gaul on the hither side of the Alps. About two centuries after, when the Gauls again found their territory too narrow, and sought to enlarge it with

part of Etruria, being provoked by the Romans to march against them, they destroyed the greater part of the city, and obliged the inhabitants to purchase their retreat with money. Such is the historical fact, when stripped of the fables with which it has pleased the Roman writers to embellish it.

Sigovesus followed a course very different from that of his brother. He penetrated into Hungary, and settled on the Danube, in the country called by the Romans Pannonia; and the courage, fierceness, and rapacity of his colonists, were long the dread of surrounding nations. The Pannonian Gauls were those who marched against Ptolemy Ceraunus, and fought the battle in which he perished with his army. They overran all Macedonia, afflicting the country with every kind of waste and cruelty; and in the next year they invaded Greece, and advanced to the pass of Thermopylæ, where a powerful Grecian army was assembled to oppose them.

The Gauls were by far the more numerous; they were taller, larger, and stronger than their adversaries, and they were full of impetuous courage; but they were inferior in arms, skill, and discipline, and in that deliberate valour, which ensures to the soldier of a civilised people his superiority over the savage. They had no defensive armour except a shield; their weapons were a javelin and a large pointless cutting sword; their mode of fighting was irregular: and they vainly strove to penetrate the firm barrier of Grecian spears, that stretched entirely across the narrow valley. To add to their distress they were plied unceasingly with missiles from an Athenian fleet, which was brought as near to the shore as the shoals would admit; and they suffered much, and effected little, till their leaders gave the signal for retreat, which soon became a disorderly flight, so that many were trampled to death in the narrow passage, or buried in the morasses. The chief command in the confederate army had been given to the Athenians, in deference to their ancient fame; which in this day's work they supported so well, that their merit was acknowledged to be the greatest in the action.

Brennus,* the Gallic chieftain, now be-
thought himself to weaken his opponents

* From the frequent occurrence of this name, as applied to Gallic leaders, it seems probable that it was not an appellative, but a title of command.

by drawing off the Ætoliæ, who were a numerous body, to the defence of their homes. A division of his forces crossed the mountains into Ætolia, and sacked the town of Callion, slaughtering all the males, and brutally abusing the women. The news was brought to the camp; the Ætoliæ hastened homewards, and were joined by those whom they had left in the towns; the very women were roused to arms by the enormities of the invaders; and the motley assemblage received an important addition of strength in the Achæians of Patræ, an excellent body of heavy-armed soldiers. The returning Gauls were met in front by the Patrian phalanx, and harassed on the flanks by the less regular forces of the Ætoliæ: and the blood that was shed, and the sufferings that were inflicted at Callion, were avenged, for not half of the perpetrators escaped to rejoin their countrymen in Thessaly.

Meantime the Gauls had opened Thermopylæ. By the track which the Persians had used to a like purpose against Leonidas and his band, a division of forty thousand men under Brennus now crossed the mountains to place itself on the rear of the Greeks. The resistance of the Phociæ, who guarded the pass, gave time for their allies to escape by sea; they were safely embarked in the ships of the Athenians, and then dispersed to their several homes. The pass was clear; but Brennus and his followers not waiting for their fellows pressed on towards Delphi, in the hope to engross the rich plunder of the temple.

Alarmed at their approach, the Delphians consulted the oracle; and they were answered, as before, when the temple was threatened by the Persians, that they should not fear, for the god would protect his own. The townsmen had been joined by the rest of the Phociæ, by the Amphiſſians, and by some of the Ætoliæ, the greater part of whom had gone against the main body of the invaders: they were animated by religious zeal as well as patriotism, and further encouraged by thunders, lightnings, and various phenomena which they considered as signs that heaven was fighting on their side. The Gauls were beaten back. In the following night they suffered dreadfully by the cold and the fall of snow: and at day-break they were attacked in front by the main body of the Greeks, while the Phociæ profited by their knowledge of the mountains to come

round upon their rear. They were driven to flight, and it was not till night-fall that they halted and encamped. The impiety of their enterprise, which struck the Greeks with horror, was probably not without its effect on the imagination of the barbarians: for in most forms of ancient heathenism there was a striking likeness of character, and every people acknowledged divinity in the gods of other nations, even in those whom it did not worship.* The consciousness of guilt, brought home to them by unexpected and overwhelming calamity, made them feel as men devoted to destruction. In the dead of the night a few of them thought that they heard a horse-tramp as of an approaching enemy: the alarm soon spread, and the whole camp was in commotion. They thought the Greeks were among them; and so wild were they with terror, that they slew each other, not distinguishing their native language and habit. Encouraged by this new disaster of their enemies, the Phociæ pressed them closer, and famine soon followed to complete their miseries. In the battles against the Greeks but six thousand Gauls had fallen; but upwards of ten thousand are said to have perished in the stormy night, and in the panic terror, and as many more in the succeeding famine.

The miserable remnant of the army under Brennus arrived at last in the encampment of their countrymen; when their leader, who had been dangerously

* The nations of Canaan allowed that the God of Israel was a great divinity, but they trusted that their own would prevail against him. When they were defeated in the hills, "The God of Israel," they said, "is a God of the hills:" and if they fought in the valleys they hoped for victory. Again, when the ark had been taken by the Philistines, and placed in the temple of Dagon; "When they of Ashdod arose early on the morrow, behold Dagon was fallen upon his face to the earth before the ark of the Lord. — But the hand of the Lord was heavy upon them of Ashdod, and he destroyed them, and smote them with emerods, even Ashdod and the coasts thereof. And when the men of Ashdod saw that it was so, they said, The ark of the God of Israel shall not abide with us; for his hand is sore upon us, and upon Dagon our god." 1 Sam. v. 3-7. Accordingly, after carrying it to other cities with a like result, the Philistines sent it back to the children of Israel with a trespass-offering; but still Dagon, and not the God of Israel, continued to be the object of their ordinary worship. Nebuchadnezzar also did not renounce his belief in the deities of the Babylonians, when he was convinced that the God of Shadrach, Meshach, and Abed-nego was mightier than they. "Therefore I make a decree, that every people, nation, and language, which speak any thing amiss against the God of Shadrach, Meshach, and Abed-nego, shall be cut in pieces, and their houses shall be made a dunghill; because there is no other god that can deliver after this sort." Dan. iii. 29. The Persians form the only exception to the general willingness to acknowledge the gods of other nations.

wounded, is said to have wilfully hastened his death through shame. Diminished and disheartened by the ruin of their detachments, the Gauls now commenced their retreat: but they were harassed by the reassembled forces of the Greeks, especially by the Ætolians; and on reaching the river Spercheius, they found the passage beset by the Thessalians and Malians. They are said to have been here cut off to a man, in the second year of the invasion. (B. C. 278.) By their utter destruction, and by the defeat of another division in Macedonia, through a stratagem practised by Antigonus, their countrymen were deterred from any further attempt on Greece: but a body soon after crossed into Asia, invited by Nicomedes, king of Bithynia, and made themselves masters of the province which was called from them Galatia. (From Galatai, the Greek form of their national appellation.)

For three years after the death of Ptolemy Ceraunus, the Macedonian diadem was disputed by various pretenders. It finally remained with Antigonus, the son of Demetrius, or Antigonus Gonatas, as he is frequently called, from the town of Goni, in Thessaly, where he was brought up. But before proceeding, we must shortly touch on the affairs of Sicily.

There was quiet in Syracuse for many years after its tranquillisation by Timoleon: but at length the commonwealth became disordered, and a revolution took place, which established oligarchy. Among those who fled at the time of the change was Agathocles, a young man originally so poor that he lived by the trade of a potter; but his personal accomplishments won him a patron, who enriched him and procured him a military command; and he quickly made himself considerable by ability in war and fluent boldness in the assembly of the people. Provoked by a personal wrong, he had warned the Syracusans against Sosistratus, who headed the party of the Few: he could not, therefore, safely tarry in Syracuse after the revolution, but he went to Italy, and there subsisted as a soldier of fortune. Another change re-established democracy in Syracuse; and Sosistratus, with his friends, being driven into banishment, Agathocles was enabled to return. The Carthaginians took up the cause of the exiles, and a war ensued, in which Agathocles distinguished himself eminently both in subordinate and principal

commands, till his conduct giving rise to a suspicion that he was aiming at the tyranny, he was again obliged to quit the city. The exiled friends of Sosistratus were readmitted into Syracuse, while Agathocles remaining in banishment gathered an army which made him formidable both to Carthage and to Syracuse. The fear of his power procured his recall, and he returned under an oath that he would not injure the democracy: after which he professed himself the champion of the Many, and courted them so dexterously, that he was chosen general and guardian of the public tranquillity, till the lately discordant factions now united in the city should be brought to dwell together in harmony and confidence. He still wanted a force more subservient to his purposes than the body of armed citizens. Having, therefore, obtained a commission to levy troops according to his discretion, he embodied the soldiers who had followed him in his last exile, men devoted to himself, and hostile alike to the Syracusan Many and the Few; and he added such of the poorer citizens, as were embittered by envy or made desperate by want, so as readily to join with any adventurer, or take part in any revolution, if they might thereby better their own condition, without regard to the form of government to be established or overthrown.

Six hundred principal Syracusans had shared in the oligarchy established by Sosistratus; and against these the attack was first directed. Agathocles invited their leaders to a conference, arrested them and tried them before his army, alleging that the six hundred had plotted to seize him because of his zeal for the popular cause. The multitude cried out that he should straightway punish the offenders, and he gave the word to march to Syracuse, to slay the guilty and plunder the houses of the six hundred and their adherents. The thing was done, and the city given up to bloodshed and pillage. Unprepared for attack and unconscious of provocation, many were killed when running out unarmed to learn the cause of the disturbance. The slaughter was not confined to those against whom it was professedly directed, but avarice and private hatred ranged at will, and where riches were to be gained, the plunderers made little distinction between friend and foe. For two days the Syracusans endured, in the bosom of peace, and at the hands of fel-

low-citizens, or of soldiers employed by the state, the worst that could have been inflicted by enemies exasperated with a wearisome siege and a perilous assault. Four thousand persons were murdered; six thousand escaped by flight; and on those who fled, the cruelty of their enemies was satiated by brutal ill usage of their wives and children. When the wholesale butchery was over, Agathocles collected the prisoners, and putting to death the most hostile to him, drove the rest into banishment.

The author of these horrors now calling an assembly of the people inveighed against the Six Hundred, and against the oligarchy which they had formerly established; declared that he had cleared the city of all who aimed at power beyond the laws, and entirely secured the freedom of the people; and professing that he wished to rest from his labours, and to be as a private individual, he threw off the ensigns of military command and retired from the assembly. He well knew that his hearers were mostly deep in blood, and that the continuance of his power was their only safeguard against retribution; while those who had been unwilling spectators of the massacre would be silenced by fear. Being loudly pressed, as he expected, to retain his office, he consented on the condition that none should be joined with him in command. On these terms he was appointed general autocrat, and thenceforward he exercised the power of a monarch, though without assuming the external state. His usurpation was effected in the year B. C. 317.

Agathocles had risen as the champion of the poor; and as such he had promised what he now fulfilled, the abolition of outstanding debts, and a distribution of lands. In ordinary cases his rule was mild as well as able; and by benefits done to many, and affable behaviour to all, he grew widely popular in spite of his crimes, till fresh jealousies and difficulties drove him to fresh executions, which made him hated by all. Unlike most other tyrants, he kept no guards about him, and was easy of access. But his ambition was the scourge of Sicily, and to further it he spared neither treachery nor blood: nor could his grasping spirit be satisfied with less than the dominion of the island.

The power of the Syracusan tyrant spread daily wider, till all the Sicilian Greeks were brought to own it, except the subjects of Carthage. But their

obedience rested on fear, and was unstable through hatred; and when large reinforcements from Africa had enabled the Carthaginians to defeat him with great slaughter, his unwilling subjects gladly revolted, and Agathocles was obliged to defend himself in Syracuse, while the rest of the island submitted to Carthage. In this extremity he boldly resolved to attack his enemies at home; and in the year after his defeat (B. C. 310) he passed into Africa. But money was first to be raised, and provision to be made against the danger of revolution; and these things he managed with his usual mixture of ability and wickedness. From every suspected family a brother or a son was chosen to accompany him, to be a pledge for the fidelity of the rest. Knowing well that the rich were mostly his enemies, he professed to pity the sufferings of the citizens, and proclaimed that any who shrunk from the hardships of a siege should quit the place with all their property. The wealthiest men, and those most hostile to the tyrant, availed themselves of this permission; but Agathocles sent his mercenaries to slay them, and to seize their goods. By this abominable treachery he gained the needful treasures, and cut off those whom he most feared to leave behind him.

Agathocles played out his desperate game with suitable desperation. He crossed the sea, eluding the enemy, whose fleet was far superior; and on landing he burnt his vessels, that his soldiers might place all their hopes in victory only, and that his small force might not be weakened by the necessity of guarding the ships. For a while he was almost uniformly victorious against an immense disparity of force; and he commanded the country, and captured the towns of the Carthaginians, his successes being aided by the hatred which the subject provinces bore to their harsh and arbitrary rulers. Meantime the Syracusans defeated the besieging army by a well-planned ambuscade, and the commander, being taken, was cruelly tortured and put to death. The loss of the general caused dissension in the besieging camp; for the Syracusan exiles and other Greeks, being numerous in the host, proposed their own leader to succeed him, in opposition to the Carthaginian who had been second in command. Nevertheless, the blockade was continued, and the besieged were suffering both by famine and by political

disorders ; for so insecure was the government of Agathocles, or so jealous the temper of those whom he had left in authority, that the latter had recently deemed it necessary to make another clearance of their enemies, and driven from the city eight thousand of those whom they considered as friends of the exiles. Encouraged by the exhaustion both of the Carthaginians and Syracusans, the people of Acragas (or Agrigentum) offered themselves as leaders to the Sicilians, inviting them to freedom from the dominion of both. The call was gladly answered, and many cities revolted from the Carthaginians; while the Acragantine army actively helped them to expel the garrisons which had held them in awe, and protected their lands against ravage by the forces whether of Carthage or of Syracuse.

In this state were matters, when Agathocles quitted his victorious army, and returned to look after his interests in Sicily. He arrived as his generals had just defeated the Acragantines, and immediately proceeded against divers of the cities which had asserted independence. Several quickly yielded; but the rest united their forces under the command of Deinocrates, a Syracusan exile, who had led the Greeks in the Carthaginian army; and the confederate army was too strong for Agathocles, though he found an opportunity of separately defeating the Acragantine forces. In returning to Africa, he was obliged to leave his Sicilian enemies unsubdued; and as he feared that the Syracusan people in his absence might call in Deinocrates and the exiles, he endeavoured to prevent the danger by another massacre of five hundred persons. Not long before at a public rejoicing he had mingled with the crowd, and drunk and jested unreservedly, being gifted by nature with a singular talent for pleasantry. In this he was partly prompted by the wish for popularity; but he had also a deeper and darker purpose, for, when all hearts were opened by wine and merriment he had been diligently noting who appeared to be his enemies; and all those who were of any consideration perished in the massacre.

The affairs of the Carthaginians had recovered in great measure while Agathocles was away, nor could his return effectually arrest the current of their fortune. The revolted subjects of Carthage, who had swelled his forces, all returned to their original allegiance; he

saw that to preserve his conquests was impossible, and he, therefore, determined to abandon Africa. But he wanted vessels to transport his army, and if he had possessed them, the enemy commanded the sea: to force a passage was hopeless, and he despaired of obtaining one on any moderate terms of capitulation. He fled secretly, deserting his soldiers, who revenged themselves by killing his sons who were left behind: a cruelty which Agathocles most bloodily retaliated, by slaughtering all the kindred of all those who had served with him in Africa. (B. c. 307.) This event happened nearly four years after he sailed for Africa.

Agathocles found, on returning to Sicily, that his principal general had revolted to Deinocrates with the troops and the cities entrusted to his care. His dismay was such that he offered to recall the exiles and resign the tyranny. But the proposal came to nothing through the intrigues of Deinocrates, who coveted monarchical power, and hoped that in the confusion of war he might attain it; while in the mean time he preferred his present situation to that of a private citizen under a democracy in Syracuse. Agathocles accused Deinocrates to the exiles, as having been the obstacle to the liberation of their country; and then made peace with the Carthaginians, allowing them to hold whatever they had possessed before the war. Being freed from their hostility, he pursued the war against the exiles, defeated them, and treacherously slaughtered seven thousand, who had laid down their arms under assurance of safety. After this he received Deinocrates into friendship, and appointing him his general continued his favour to him to the end: a wonderful thing in one who was commonly as jealous as he was faithless, but who now put all trust in a reconciled enemy, and that a man of no integrity.

Agathocles soon reconquered most of Sicily; after which he warred in various regions, and fully maintained the character of an eminent, prosperous, and powerful scourge of mankind. A daughter of his was married to Demetrius Poliorcetes. In his latter years his chief ambition was to make his kingdom a first-rate maritime power; and this was nearly accomplished, when he was poisoned by Mænon one of his intimates, in concert with his grandson, (B. c. 289.) The Syracusans forthwith re-established democracy, confiscated their tyrant's property, and over-

threw his statues. Meanwhile Mænon aspiring to sovereign power, assassinated the grandson of Agathocles, gained the mercenaries to his interest, and with them made war on the Syracusans. The Carthaginians aided Mænon, and the Syracusans were obliged to receive the mercenaries into their commonwealth: but fresh quarrels arose between the old citizens and the mercenaries, and it was finally settled that the latter should sell their property and quit the island. The departing mercenaries arrived at Messene; where being received as friends in the houses of the inhabitants, they conspired to murder their hosts and seize their wives and their possessions. Democracy endured not long in Syracuse, but both this and the other cities fell again under tyrants; and shortly afterwards the unhappy island became a battle field for the Carthaginians and the Romans.

CHAPTER XI.

Of the rise of the Achaian League; and of the affairs of Greece from the invasion by the Gauls to the end of the war between the Achaians and Cleomenes, King of Lacedæmon.

SECT. I.—THE Achaians were early distinguished among the Greeks for probity and good faith. So generally was this acknowledged, that at a time when the Grecian cities of Italy were full of bloody tumults and revolutions, the Achaians were called in, by common consent, to settle all quarrels, and appoint the terms of a general peace; and again, in certain disputes which arose after the battle of Leuctra, the Thebans and the Lacedæmonians agreed to abide by their arbitration. But the character of the Achaian states was unambitious, and they were surrounded with neighbours stronger than themselves; and hence, though widely respected for peaceful virtues, they are little conspicuous in history till the latter times, when the good fortune of Greece brought them forward to take the lead.

The constitution of the Achaian cities was by law democratical, and it is highly praised by the judicious historian Polybius, as affording freedom of speech and action, and equal justice to all. While they were under the Lacedæmonian supremacy the commonwealth was administered by a privileged class of wealthy men: but the temper of the Achaians was quiet and orderly, and their attach-

ment strong to their ancient institutions; and it is probable that the ruling few, for the most part, confined themselves to the functions of administration, without encroaching on the civil rights of individuals, or on the authority of the popular assemblies to regulate, and of the popular tribunals to ascertain and enforce them. The cities of the province were twelve; and they acknowledged some degree of political union, having common sacrifices in a common temple, and congresses assembled at intervals from all the states to consult for the good of the Achaian nation. It is worth remarking that a similar connexion existed in early times between the Achaian colonies in Italy, Croton, Sybaris, and Mesupontum. But the bond of confederacy was slight, for we occasionally find particular states engaging in wars when the rest were neutral; and instances are not wanting in which different Achaian cities were battling against each other either as auxiliaries or as principals.

After Alexander's death the Achaian league was broken up, and the cities became disunited and internally disordered. Most were garrisoned either by Demetrius or Cassander, and afterwards by Antigonus, the son of Demetrius, who succeeded at once to his father's ascendancy in Greece, and, finally, as we have seen, recovered his sovereignty of Macedonia. Some had tyrants, especially those under the power of Antigonus, whose favourite policy was to establish a petty monarch in every state. But at the era when Ptolemy, Lysimachus, and Seleucus, the last surviving princes bred in the school of Alexander, were swept from the stage, a brave attempt was begun for the freedom and union of Achaia.

In the year B. C. 280, the inhabitants of Patræ, (the modern Patras,) Dyme, Tritæa, and Pharæ, combined for the purposes of reciprocal defence and common regulation. Nearly five years after, the citizens of Ægium expelled their Macedonian garrison, and those of Boura killed their tyrant, not without assistance from the Achaian states already associated. Both of these were forthwith received into the league. The next admitted were the men of Carynia, whose tyrant Iseas took warning from the fate of the tyrant of Boura, and on receiving an assurance of safety from the Achaians, voluntarily gave up the sovereignty, and brought his people into

the confederacy. During a considerable period the union comprehended these seven cities only. The common concerns of the league were administered by two generals and a secretary, elected yearly, and taken from all the cities in rotation. But in the twenty-fifth year of the confederation it was resolved that the presiding authority should thenceforward be entrusted to a single general. In the fourth year after this change (B. C. 251,) the Achæians were joined by the important state of Sicyon, a city not belonging to the province, but far exceeding all the proper Achæian towns in riches, extent, and population.

The Sicyonian commonwealth had long been unsettled, and tyrants were continually rising and falling there; the power which was cemented with blood being commonly ended by violence, to make way for another equally oppressive. Shortly before the union with the Achæians, Nicocles was tyrant of Syracuse; but Aratus, a noble youth, whose father had been murdered in a former usurpation, was living an exile in Argos, and cherishing the hope to liberate his country. A few fellow exiles concurred in his purpose, and he was meditating the seizure of some strong hold in the Sicyonian territory, when a recent fugitive from Sicyon told him of a place where he might scale the walls of the city itself. The attempt was made with singular boldness and address. Aratus and his little band passed the ramparts undiscovered, and going straight to the tyrant's palace, surprised and made prisoners his guard. Notice was sent to the friends of Aratus, who thronged to him from all quarters, while the rest of the citizens gathered in the theatre, full of anxiety as to the occasion of the tumult. But proclamation being made that Aratus the son of Cleinias offered liberty to the people, they joyfully crowded to fire the gates of the tyrant. The palace was plundered, while its master fled by secret passages. Such was the good fortune attending the enterprize, that not a drop of blood was shed in it, whether of friend or foe.

In ordering the commonwealth, Aratus, at the age of twenty, displayed wisdom not inferior to his ability and daring in the surprise. He established a democracy on the Achæian model, which had been the object of his early admiration: and he provided a safeguard against attacks from without and revolutions with-

in, by bringing Sicyon into the Achæian league. He restored almost six hundred exiles; but as their lands had mostly been given to others, his hardest task was to settle the disputes between the old and new proprietors. Fortunately the king of Egypt was his friend, and sent him large sums of money, which enabled him to settle the business with little distress to either party; and being appointed arbitrator, he adjudged matters to general satisfaction, and brought back peace and mutual good-will to the distracted city.

The Acrocorinthus, or citadel of Corinth, one of the strongest fortresses in Greece, was the most important of all to any seeker of empire, being set on a lofty mountain in the Isthmus; which gave to its possessor not only the command of the rich and populous Corinth, but also the power of interrupting or impeding all land-passage between the peninsula and continent of Greece. Antigonus had long coveted, and finally gained it; but in the eighth year after the deliverance of Sicyon, Aratus being, for the second time, chosen general by the Achæians, undertook to win it from him by a nightly surprize. The plot was managed ably and boldly, and seconded by singular good fortune; and by day-break he was master of the fortress, though not without great difficulty and danger. The Achæian army now approaching the city was joyfully admitted by the Corinthians, and Aratus came down from the citadel to the theatre, to address the Corinthian people there assembled. He delivered to them the keys of their gates, which had been long kept from them by their tyrants, and proposed to them to join the Achæian confederacy, which they gladly did. He garrisoned the citadel with four hundred soldiers. He gained Lechæum, the port of Corinth, and in it he took twenty-five ships and five hundred horses belonging to Antigonus. Before the expiration of his office he had prevailed on the Megarians also to associate themselves with the Achæians: the Trœzenians and Epidaurians soon followed the example; and the confederacy was further strengthened by alliance with the king of Egypt.

The Athenians were then under the power of Antigonus. He had invaded their territory and besieged their city: and though they were succoured by an Egyptian fleet, and an army under Areus, the king of Lacedæmon, of the race of Eurysthenes, yet no effectual

relief was given. They still held out for a considerable time after Areus had withdrawn his forces: but they were at length obliged to receive a garrison within the city, which Antigonus, however, soon after withdrew, conceiving, probably, that he could retain them in obedience less offensively by garrisons which he seems to have held in Peiræus, and other important posts. Aratus, after his success at Corinth, turned his views to Athens. He displayed the power of the Achæians by plundering Salamis, and endeavoured to conciliate the Athenians by setting free, without ransom, all his Athenian prisoners: but nothing important immediately followed.

Henceforward Aratus was chosen general of the Achæians as often as the law allowed, and even when out of office he guided their counsels. His aim was to put down all the tyrants in Peloponnesus, to exclude from the peninsula the Macedonians who supported them, and to unite all the Peloponnesian cities in one great confederation, such as that of the Achæians. In this he was continually opposed by Antigonus Gonatas, and his son Demetrius; and very often by the Ætolians, a rude, but numerous and warlike people. The struggle of the Achæians with the power of Macedonia continued till after the death of Demetrius, and then gave way to a contest with Cleomenes, king of Lacedæmon, assisted by the Ætolians.

SECT. II.—Cleonymus, the uncle of Areus, king of Lacedæmon, had opposed his nephew unsuccessfully as a rival claimant of the throne; and subordinate honours and commands, which were largely bestowed on him, could not satisfy his ambition or quiet his craving for vengeance. In the thirty-seventh year of the reign of Areus (B. C. 272,) Pyrrhus returned from Italy. In his first campaigns there he had commonly been victorious, but never without considerable difficulty and loss. The war was resolutely maintained against him, and every battle weakened his army, while that of Rome was inexhaustibly recruited from a warlike people. Unsteady and impatient, he was easily wearied with a protracted struggle where the prospect of success was daily becoming more distant; and being invited by the Syracusans and other Sicilian Greeks, to assist them against the Carthaginians, he gladly caught at the hope of speedier victory on a new scene

of action. His success in Sicily was at first most brilliant, and he had nearly expelled the Carthaginians from the island, when his tyrannical conduct provoked revolt in the Grecian cities, and finally united them against him. Driven out of Sicily, he returned to Tarentum, and resumed his war against the Romans: but he was defeated and obliged to quit the country; and straightway, returning to Epirus, he made war upon Antigonus Gonatas, won a great battle, and nearly mastered all Macedonia. Cleonymus now saw in the restless character of the victor the means of glutting his ambition and revenge; and he asked for aid to place him on the throne of Lacedæmon, which Pyrrhus willingly granted, beholding in the proposal an opening to the conquest of Peloponnesus. He invaded the peninsula, pretending that he came to free the cities from the yoke of Antigonus; but he soon gave the lie to his professions of upright intention, by ravaging Laconia unprovoked, and without declaration of war. He next advanced against the city. The Lacedæmonians were taken at great disadvantage, for the best of their strength was absent with Areus, who was warring in Crete; but those who remained were diligent and resolute in preparation for defence under the command of Acrotatus, the son of Areus. It was resolved to send the women into Crete, but they remonstrated against it; and the queen Archidamia,* being appointed to speak for the rest went into the council hall, with a sword in her hand, and said, "That they did their wives great wrong, if they thought them so faint-hearted as to live after Sparta were destroyed." In the night before the assault the approaches to the city were fortified with trenches, and with waggons set fast by the wheels, which were sunk in the ground. The women, with the old men, laboured on the works, while the young men rested to prepare themselves for battle; and when the encounter was begun, the women were active in bringing arms and refreshments to such as needed them, and in carrying off the wounded. The struggle lasted through two days, though small hope remained for the third, so many were the slain, and so few were those unhurt in the action; but in the course of the night

* She seems to have been wife to Archidamnus, one of the Procleid line, who was already reigning twenty-three years before. He was probably now dead, and his son a minor; for, otherwise, Acrotatus would hardly have held the chief command.

the defenders were reinforced by a body of mercenaries in the service of Antigonus; and also by Areus, who arrived from Crete with two thousand Lacedæmonians. The women and old men now retired to their houses. On the morrow Pyrrhus was beaten off, and soon after went to Argos, being invited by one of two leaders, who were there contending for superiority. He was here opposed by Antigonus and the Lacedæmonians. The Argians wished to be neutral, and requested that neither monarch would enter their city. Antigonus, being the weaker, consented, and gave hostages; Pyrrhus professed compliance, but refused all pledges to ensure the fulfilment of his word, which, indeed, he did not mean to keep. A gate being opened by the friends of Pyrrhus, he entered the city; and Antigonus was called in to oppose him; the troops of Pyrrhus were overmatched and broken, and in endeavouring to cover their retreat he was killed by a tile from a house-top, thrown, as it is said, by a poor and aged Argian woman, who saw her son in combat with him, and almost overcome.

Areus, falling in some obscure war, before Corinth, left the kingdom to his son Acrotatus, who had been mainly instrumental to the repulse of Pyrrhus. Acrotatus died in battle against Aristodemus, the tyrant of Argos; and Leonidas, the son of Cleonymus, governed as protector, in the name of the late king's infant son, for eight years, at the end of which the infant died, and Leonidas became king.

The manners and government of Lacedæmon had long departed widely from the pattern set by Lycurgus. The equality which he established among all the members of his commonwealth had been early confined within a privileged class, who engrossed all public honours, and claimed, as exclusively their own, the name of Spartans. (See page 92.) At the battle of Platæa, in a Lacedæmonian army of ten thousand soldiers, the Spartans had formed one-half; but in the time of Agesilaus their number was comparatively small, and in that of which we are now treating there remained not above seven hundred Spartan families. This change had been unforeseen, and unprovided for by the lawgiver; but another had taken place yet more repugnant to the spirit of his institutions. Expensive wars, and various intercourse with strangers, had

banished the old severity of manners, and brought back the idolatry of gold. Those disorders had revived which the laws of Lycurgus had been chiefly directed to eradicate. The poor were burdened with debt—the rich were living in luxury and pomp; discontent and envy were ranged on the one side, and pride and licentiousness on the other; the influence of wealth was completely restored, and that influence was centred in about one hundred of the seven hundred Spartan heads of families.

Among the most determined contemners of the institutions of Lycurgus, was the king Leonidas, whose habits had been formed in the court of Seleucus. His colleague Agis was of a different stamp. From boyhood upwards he had endeavoured to emulate the ancient plainness and austerity of life; and when he became king he forthwith undertook to reform the commonwealth according to the model of Lycurgus. As the departure of the state from its original principles was entire, it was necessary that its return should be effected by changes proportionably sweeping and violent; and the measures adopted by Agis to this end were the abolition of all debts, and the equal division of landed property, two of Lycurgus's measures, but probably even more difficult to carry into execution now, than when Lycurgus succeeded in introducing them.

On sounding the people to determine the chances of success, Agis found that the younger and poorer would be mostly on his side. The honest hoped to reform the commonwealth; the needy and profligate to cancel their debts and repair their losses; and the extreme concentration of property had so much lessened the number of those who were interested to defend it, that the revolutionary party were sure to be victorious, if it should come to a trial of force. Having ascertained his strength, Agis proposed his intended laws to the council of elders. His purpose was to abolish the distinction between the Spartans and the common Lacedæmonians, retaining that between the Lacedæmonians and the Pericæci, or people of the towns. The number of the citizens was to be filled up from the Pericæci and from strangers, and all these, as well as the original Lacedæmonians, were to be trained in the strictest discipline of Lycurgus; and among the citizens was to be distributed the proper territory

of Sparta, being divided into four thousand five hundred equal parts, while the remaining territory belonging to the state was to be divided into fifteen thousand parts, and distributed among the Perioeci. When the proposal had been broached in the senate, and warmly contested, the Ephor Lysander assembled the people, and laid it before them. He was followed by other favourers of the measure; and Agis, rising last, addressed the assembly, and said, that he would himself contribute largely to the reformation of the commonwealth; for he would make common all his lands, and add six hundred talents in money; and so should his mother, grandmother, kinsmen, and friends, all of whom were the wealthiest in Sparta. The offer was warmly applauded by the multitude; but it was opposed by the rich men, with Leonidas at their head. The previous approbation of the senate was necessary to the validity of any decree which might be passed by the people; and Leonidas and his party prevailed so far that, by a single vote, that approbation was withheld.

An ancient law forbade that any of the race of Hercules should marry a stranger, or should dwell in a strange land. Leonidas had done both; and being now accused by Lysander, he fled to a sanctuary. As he did not appear when he was cited, he was deposed, and his son-in-law, Cleombrotus, being also of the royal race, was made king. Meantime Lysander's office expired, and the new Ephori, taking part with Leonidas, accused Lysander and his friends of overthrowing the laws. The reforming party now despaired of carrying their point by peaceable measures; and Agis and Cleombrotus going with their friends into the place of assembly, plucked the Ephori from their seats, and put others in their room. They armed their younger partisans, and opened the prisons; their enemies feared that a massacre would follow, but no man had any hurt. Leonidas fled to Tegea. Agesilaus, the uncle of Agis, had laid men in wait to kill Leonidas on the way; but Agis hearing of it sent some trusty persons to accompany him, who brought him safely to his place of refuge.

The reformers now had the mastery, and their scheme of government might probably have been established, had all its supporters been sincere. But Agesilaus being a great landholder and deeply

indebted, his wish was to cancel his debts but keep his land. Accordingly he persuaded Agis that he could not carry all at once without a violent commotion; but that if he first won the land proprietors by annulling their debts, they then would easily and willingly agree to the division of the lands. If the landholders would allow of the spoliation of others, but would not sacrifice to the common good any interest of their own, it surely argued gross credulity to imagine that such corrupt and selfish persons would consent to a change injurious to themselves, in consideration of one already made which was beneficial. The bait was swallowed, however. It was first decreed that all debts should be cancelled, and accordingly every bond and obligation was publicly burnt. But when the people called for the division of lands, Agesilaus still found some pretext for delay, till king Agis was sent on a military expedition to aid the Achæians against an Ætolian invasion.

The host of Agis was principally composed of the poorer sort, who were gainers by the revolution, and who naturally felt a strong attachment to its author; and Agis was the better enabled to preserve strict discipline without impairing his popularity, since every rule which he enforced upon others was rigidly observed by himself. No soldier could for shame be disorderly or luxurious, when his commander lived more regularly and fared more plainly than any in the camp. The army recovered its old temper of exact and cheerful obedience; and though the over caution of Aratus allowed no opportunity for brilliant achievement, the conduct of the Lacedæmonian troops inspired in the allies an unwonted respect both towards their leader and his commonwealth. But on returning to Sparta he found that his work had gone to ruin during his absence. Agesilaus being one of the Ephori, while none was present whose authority could control him, had abused his power to every purpose of extortion and oppression. To prevent all danger from private revenge or general insurrection, he went always strongly guarded by soldiers. He openly professed to make no account of king Cleombrotus, and to pay respect to Agis less for his office than because he was his kinsman; and he gave out that he would be Ephor the next year, as well as the present.

The Many were disgusted at the ex-

cesses of Agesilaus, and angry that the lands had not been divided according to promise; and hence they willingly suffered the enemies of Agis to recall Leonidas and to reinstate him in the kingdom. Agis fled to the Brazen House, Cleombrotus to the Temple of Neptune; and Leonidas being more especially offended with Cleombrotus went first against him. He sharply taunted him that, being his son-in-law, he had conspired to depose him and drive him from his country. Cleombrotus made no answer: but his wife Chelonis, the daughter of Leonidas, who had quitted him on account of the injury done to her father, and had gone to serve the latter in his adversity, now became an humble suitor in his favour.* At her intercession Leonidas spared his life, but banished him from the city. He removed the Ephori, and substituted others; and then he plotted to get Agis into his power. First he urged him to quit the sanctuary, and to take his part in the regal authority; and declared that the citizens had forgiven him all

* The details of this transaction, as given by Plutarch, are too interesting to be altogether omitted, though they do not rest on the highest authority. The scene, however, having taken place in public, many of its particulars may have been recorded at the time; and hence we may reasonably give more credit to the biographer on this, than on many other occasions, when he professes to give a minute account of things spoken or acted in darkness and privacy. The extracts are taken from the old translation by Sir Thomas North, whose language is livelier, and better expresses the character of the original, than any modern English version. Chelonis, we are told, sat down by her husband, and embraced him, having her two little sons on either side: "All men wondering, and weeping for pity to see the goodness and natural love of this lady, who shewing her mourning apparel, and hair of her head flaring about her eyes, bare-headed, she spake in this manner to her father:—

"O father mine, this sorrowful garment and countenance is not for pity of Cleombrotus, but hath long remained with me, lamenting sore your former misery and exile; but now which of the two should I rather choose, either to continue a mourner in this pitiful state, seeing you again restored to your kingdom, having overcome your enemies; or else putting on my princely apparel, to see my husband slain, unto whom you married me a maid? for who, if he cannot move you to take compassion on him by the tears of his wife and children, he shall then abide more bitter paine of his evil counsel than that which you intend to make him suffer. For he shall see his wife die before him, whom he loved more dearly than anything in the world. Also with what face can I look on other ladies, when I could never bring my father to pity by any intercession I could make for my husband, neither my husband intreat him for my father; and that my hap is to be born a daughter and a wife most unfortunate and despised of my owne!" Wherefore Leonidas commanded Cleombrotus to get him thence, and to leave the city as an exile; and prayed his daughter for his sake to remaine with him, and not to forsake her father, that did so dearly love her, that for her sake he had saved her husband's life. This notwithstanding, she would not yeeld to his request, but rising up with her husband, gave him one of her sons, and herself took the other in her armes; and then making her prayer before the altar of the goddess, she went as a banished woman away with her husband."

that was past, well knowing that he had acted from patriotism and honourable ambition, but had been deceived and misled by the craft of Agesilaus. Agis was not deceived by this, but he was afterwards entrapped, and thrown into prison. "Then came Leonidas incontinently with a great number of soldiers that were strangers, (mercenaries) and beset the prison round about. The Ephors went into the prison, and sent unto some of the senate to come to them, whom they knew to be of their minde: then they commanded Agis, as if it had been judicially, to account of the alteration he had made in the commonwealth. The young man laughed at their hypocrisy. But Amphares (one of the Ephors) told him that it was no laughing sport, and that he should pay for his folly. Then another of the Ephors seeming to shew him a way how he might escape the condemnation for his fault, asked him if he had not been enticed unto it by Agesilaus and Lysander. Agis answered that no man compelled him, but that he only did it to follow the steps of the ancient Lycurgus, to bring the commonwealth unto the former estate of his grave ordinance and institution."—(*North's Plutarch.*) Being asked again if he did not repent of it, he answered that though he should die for it he would never repent of so wise and virtuous an enterprise. He was condemned to death, and hastily executed, lest he should be rescued by the people; and he was the first Spartan king who was put to death by order of the Ephori. His mother and grandmother were also strangled. The latter was that Archidamia, who had already played a distinguished part when Pyrrhus besieged the city. His brother Archidamus only saved himself by a hasty flight: his widow was forcibly taken by Leonidas out of her house, and married against her will to his son Cleomenes, though he was yet in extreme youth, (B. C. 240.)

Four years after the death of Agis, Leonidas died, and Cleomenes became king. He caught from his wife's conversation a love for the memory of Agis, and a strong desire to effect his attempted reforms. Cleomenes exceeded Agis in ability and daring, but his ambition was greater and less purely patriotic; and far from hazarding his success, like Agis, by impolitic mildness, he was rather willing to fulfil his project by whatever methods seemed the most effectual, and to trust that any violence

would be excused by his need and his good meaning. His ambition was turned to military fame, no less than to that of a reformer; and his wish to play a leading part in Peloponnesus was quickened by the hope that the power and glory thus acquired would promote his purposes at home. Accordingly he undertook to wrest from the Achæians and restore to the Lacedæmonians the lead in the peninsula. About the tenth year of his reign (B. C. 226,) he commenced the war; and shortly afterwards he found the means of accomplishing his political changes.

He deluded his banished colleague Archidamus by the promise of reconciliation, induced him to return to Sparta, and treacherously murdered him: either fearing that he would be an instrument in the hands of the party adverse to reform, or through mere ambition, and the wish to rule without a rival. In this matter Cleomenes acted in concert with the Ephori; but he secretly intended their destruction, and it was not long before he effected it. Having found a pretext to leave the Lacedæmonians of his army encamped in Arcadia, he went suddenly to Sparta with the mercenaries. He surprised the Ephori at supper, killed four of them, and wounded the fifth; and several persons besides were slain, who attempted to defend them: but those who stirred not were not harmed, nor was any one hindered from leaving the city. The next morning Cleomenes banished eighty citizens by sound of trumpet; and then assembled the people, and declared what he had done. He said that Lycurgus had entrusted the government to the king and to the senate, and that the paramount authority which the Ephori had exercised was a mere usurpation. He proclaimed the abolition of debts and the equal division of lands; and he first gave up his possessions to the public, and was followed by all his friends. The division was then made, and Cleomenes directed that a share should be assigned to each of the men whom he had banished, declaring that he would receive them into the city as soon as the government was settled. The race of Procles was not extinct by the death of Archidamus, who had left two children; but their rights could not resist the power of Cleomenes, who took his brother Euclides for his colleague, so as nominally to preserve the double royalty, without substantially clogging

his own authority. He increased the number of the citizens; improved their arms and military training; and fully re-established the discipline framed by Lycurgus to regulate the education of youth and the diet and habits of men. His own life was plain and temperate, his conversation pleasant, his manners courteous and dignified; and the influence of his personal qualities combined with the feeling, that his measures had invigorated the commonwealth, to make him highly popular in spite of his violence and ambition.

SECT. III.—The Achæians had withstood the attacks of Antigonus Gonatas though assisted by the Ætolians, and had given protection to the Ætolians themselves against Demetrius, his son. Their power had extended far beyond the limits of the province. While Demetrius was living, Lysiadæ, the tyrant of Megalopolis, had voluntarily given up the dominion of that city, and had brought it into the Achæian league; and his abdication being made, whether through policy or public spirit, at least at a time when there was no immediate terror to constrain him, he was rewarded with the highest popular favour, and with frequent election to the chief offices of the confederacy. In the year B. C. 229, after a reign of ten years, Demetrius died; and now the prop was removed which had mainly supported the tyrants of Peloponnesus against the Achæians. Many yielded to the time, and followed the example of Lysiadæ; and among those who did so was Aristomachus, the lord of the powerful city of Argos.

When the war with Cleomenes began, the Achæians had received into their association all the states of Peloponnesus, except the Lacedæmonians, the Eleians, and some of the Arcadians. The war was boldly and ably conducted on the part of the Spartan king, and his first campaigns were very generally successful. He defeated the Achæians near the mountain Lycæum, in Arcadia, and again in the territory of Megalopolis. In this latter battle Lysiadæ was killed; and it was shortly after that Cleomenes accomplished the revolution in Lacedæmon. He then won a third and a more decisive victory near Dyme; after which he ranged for a while unopposed, persuading some, and compelling others to revolt from the Achæians to himself. He thus became master of Argos, and of most of the cities recently admitted into the hostile confederacy; and his

career of conquest did not stop till Corinth was added to the number of his allies.

The Lacedæmonian arms were now decidedly superior, and their preponderance was likely to be increased by union with the forces of Ætolia. Some foreign aid was necessary to the Achæians; and Aratus had foreseen this emergency, and provided to meet it. He now considered Grecian liberty to be threatened less by Macedonia than by Lacedæmon; and instead of further seeking to depress the Macedonians, he wished to use them as a balance to the more formidable power. He had, therefore, secretly smoothed the way to reconciliation with Antigonus, who was regent of Macedonia, in behalf of Philip, the infant son of Demetrius; but he was himself unwilling to appear in the business; for he feared to break the courage of the Achæians, if he seemed so far to despair of conquering unaided, as to fly for succour to the ancient enemies of the commonwealth.

The Arcadian chiefs of the Theban party, who presided at the founding of Megalopolis, had chosen its situation with a view to make it an effectual check on Lacedæmon. It commanded the principal roads by which an army could be marched from Laconia into Arcadia or Messenia; and hence in war its possession was most desirable both to Lacedæmon and its enemies. This circumstance, together with that of their proximity to the adversary, had thrown on the Megalopolitans far more than their share in the burden of this war. They had ancient friendship with the Macedonian government; and it was, therefore, thought that a negotiation undertaken by them with Antigonus, under the pressure of their own particular sufferings, would not be liable to the same objections as if it came from the general administration: for it would not imply the same distrust as to the issue of the war, nor hazard the reputation of the confederacy in case of failure; and if it should yet appear that the Achæians were able to change the fortune of the contest by their own exertions, they would not be pledged to invite the interference of Macedonia, though the application of the Megalopolitans should be favourably received.

Aratus dealt with two of the friends whom he most trusted in Megalopolis, that they should propose to send an embassy to Antigonus, provided the assent of the Achæians could be obtained.

The decree was passed, and the movers were appointed to go as ambassadors, first to the congress of the allies, and then, having got permission, to the regent of Macedonia. Permission was given, and the ambassadors proceeded on their errand. When they came before Antigonus, they briefly executed their commission, as directed by the Megalopolitans, and then laid open the views of Aratus, and showed the dangers to be apprehended both by Greece and Macedonia, should the rapacity of the Ætolians be united with the ambition of Cleomenes. As long, they said, as the Ætolians were quiet, the Achæians would maintain the war against Cleomenes; but if success went against them, and their enemies were joined by the Ætolians, there would be need of Macedonian assistance; and Aratus would point out the proper season to give succour, and would suggest such assurances, as should satisfy both parties, of a grateful return for the benefit conferred. The proposals were favourably received, and Antigonus wrote to the people of Megalopolis, to the effect that he would come to their assistance if it should be agreeable to the wish of the Achæians.

In the next meeting of the confederates the Megalopolitans proposed to call in Antigonus, and the suggestion was generally well received. Aratus then rising commended the conduct of the embassy, and expressed his pleasure in hearing the favourable disposition of the Macedonian ruler: but before proceeding in the business, he advised the Achæians to make further trial of their strength, and not to ask the help of their friends, till they had lost the hope of otherwise prevailing. His opinion was approved, and the matter rested till the Achæians were determined by their defeat near Dyme to apply forthwith to Antigonus. One obstacle existed to the conclusion of any treaty; which was, that the Acrocorinthus had been taken from the Macedonians, and was guarded by a body of Achæian troops. Antigonus required that the fortress should be restored, which could not be done without a breach of faith pledged to the people of Corinth. The Corinthians, however, removed the difficulty, by revolting to Cleomenes; and the Achæians then gave up the Citadel to Antigonus.

Cleomenes, on hearing that the Achæians had obtained the alliance of Macedonia, took a position on the Isthmus, intending to dispute the passage. The

Ætolians also declared to Antigonus that if he came within Thermopylæ they would oppose them by arms; but he nevertheless advanced through Thessaly and Eubœa to the Isthmus. Meanwhile Aristoteles, an Argian leader of the party friendly to the Achæians, made insurrection against the friends of Cleomenes, who were then in possession of the government. The Achæians sent an army to Argos to support him, and Cleomenes also quitted his encampment on the Isthmus, to go to the succour of his partizans. An obstinate struggle took place within the city, but Cleomenes was in the end obliged to retire, and he then returned to Sparta. The Argians were re-admitted into the Achæian confederacy. Aristomachus, their former tyrant, on resigning the sovereignty, had been received into the highest favour by the Achæians, and had been chosen their general. But his abdication had been caused by fear; and the rise of Cleomenes giving him the hope of recovering his power, he had been the chief mover in the defection of the city. At the counter-revolution he was taken by the Achæians, and his infidelity was punished with death; but no other execution seems to have taken place.

Antigonus advanced unopposed to Argos, and thence into Arcadia, where he took several places garrisoned by Cleomenes, and delivered them to the Megalopolitans. He then went to Ægium to confer with the congress of the Achæians, and was chosen by them commander-in-chief of the confederate army. He now laid up his troops in winter-quarters; but at the coming of spring he invested Tegea, and reduced it to surrender, after which he invaded Laconia. Some slight skirmishes had taken place between his troops and those of Cleomenes, which were posted for the defence of the country against him, when he heard that the forces of Orchomenus, in Arcadia, were newly come to the Lacedæmonian camp. He straightway led his army to Orchomenus, and took it by assault; and then he laid close siege to Mantinea. Before the present war this city had revolted from the Achæians, and allied itself with the Ætolians, and afterwards with Cleomenes. Since that it had been surprised and taken by Aratus: who, as soon as he was master of the place, issued an order to restrain his soldiers from plunder, and calling together the Mantineians in assembly, declared that their goods and persons were

safe, and that all he required was their re-union with the Achæians, on the same footing as before. The unexpected capture of the city, exposing it to pillage and ruin, together with its no less unexpected release from danger by the humanity of the victor, must have raised a strange conflict of passions in the breasts of the inhabitants; but neither fear nor gratitude could permanently keep down the favourers of the Ætolians, nor those of Lacedæmon. The ruling party requested a garrison of the Achæians, to strengthen them against their enemies both within and without; the garrison was sent, but it could not hinder a party-contest from arising, in which the Lacedæmonians came in, and gave the victory to their adherents. The conquering faction slaughtered all the Achæians in the city; and this bloody deed, when Mantinea was besieged by the Achæians under Antigonus, provoked a degree of severity, which would else have been little consistent with the character of that people or of their leader. The siege was pushed till the inhabitants were reduced to an unconditional surrender, and all were sold for slaves.

After the taking of Mantinea, Antigonus broke up his army, retaining with him the mercenaries, but dismissing the Macedonians to winter at home. Cleomenes took advantage of the respite thus allowed him for the surprisal of Megalopolis. That city was difficult to defend, being large and thinly peopled; for the Megalopolitans had suffered greatly in the former battles of this war, in which they had ever been the most forward. The gates were opened to Cleomenes in the night by some Messenian exiles living in the place, whom he had bribed. At day-break the citizens heard of his entrance, and immediately flew to arms. Three months before this he had gained admittance into Megalopolis, but had been driven out, and had narrowly escaped the ruin of his army. The resistance of the townsmen was now no less determined; but they were greatly outnumbered, and the most commanding situations were preoccupied by the assailants. Driven out from their homes, they retired into Messenia; and hither Cleomenes sent messengers with the offer, that, if they would henceforth be his allies, their city should be restored to them unharmed. They, nevertheless, continued steadfast in their engagements to the Achæians; and Cleomenes, finding that he could not win them, razed

Megalopolis to the ground. It was, however, afterwards restored under the patronage of Antigonus.

At the approach of spring Cleomenes took the field, and approaching towards Argos, where Antigonus had wintered, ravaged the country under the walls. He hoped that his adversary would be compelled by the clamours of the people to fight at a disadvantage; or if not, that his credit would be lowered by suffering the property of his allies to be wasted before his face. The Argians demanded battle, and reviled Antigonus, who steadily refused to lead them out; and Cleomenes returned in safety to Laconia, with his army highly gratified and laden with spoil. But as the season advanced, Antigonus, having gathered from their several homes, remote and near, the Achaians and Macedonians, was once more in a condition to take the field with superior force. He advanced to the frontier of Laconia, where he found Cleomenes posted at Sellasia to defend the pass. The battle which ensued was obstinately contested, with great skill and courage shown on both sides; but at length the Lacedæmonians were irrecoverably broken and put to rout. Cleomenes now gave up all thought of further maintaining the war. He fled to Sparta, and thence to Gythium, where he embarked for Alexandria; while Antigonus advanced from the field of battle to Sparta, and took possession of it unopposed. Thus the war of the Achaians with Cleomenes was ended, three years after its commencement. (B. C. 222.)

Antigonus used his victory with liberality and moderation. He contented himself with restoring the Lacedæmonian government to the state in which it existed before the changes made by Cleomenes; and having done this, he left the people independent. From Sparta he went to Tegea, and settled that commonwealth according to its ancient constitution; and thence he pursued his way by Argos towards Macedonia, whither he had been called by the news of an Illyrian invasion. He came to Argos during the Nemean festival, and was welcomed with joy and thanks unbounded; and the highest honours were voted to him, as well by the general congress of the Achaians, as by the people of each particular state. On arriving in Macedonia, he found the Illyrians still in the country, and defeated them; but in the course

of the fight, while eagerly cheering and exhorting his soldiers, he broke a blood-vessel, in consequence of which he sickened and died. He was much regretted by the friends of Macedonia; for he was generally thought to have given fair promise, not only of ability in the field, but of prudence and benevolence.

CHAPTER XII.

Of the first War maintained by the Ætolians against Philip, king of Macedonia, together with the Achaians.

SECT. I.—THE peace which followed the victory of Antigonus was grievous to the Ætolians. This people, though numerous and brave, had ever been powerless through ignorance, poverty, and disunion, till the time when the political system of Greece was broken up by the Macedonian kings and leaders. It was then that the Ætolian tribes united in a league, which soon became a formidable power, and one of a spirit new to Greece. The Ætolian warrior usually aimed less at empire than at plunder, and looked for his reward to the continuance of war, and not to its termination. His victories led to the gathering of booty, which was quickly consumed, and only whetted his appetite for more; and not to the acquisition of permanent sources of revenue, which would have flowed with riches in time of peace, but which war would have interrupted and put to hazard. The law had ever been weak, the people rude; robbery, the vice of uncivilized nations, had prevailed unrestrained: and the effect of the union was not to destroy the predatory habits of the Ætolians, but simply to make them hunt in concert, instead of preying on each other. Since their harvest time was the time of trouble, they little valued the provisions agreed on by civilized nations to abridge and soften war, and give security to peace; they were therefore careless of the laws of arms, and the sanctity of covenants: and they were bloody as well as faithless, their moral sensibilities being coarse and dull, as their views of expediency were narrow.

The growing riches of the Achaian confederacy had moved the envy and tempted the rapacity of the Ætolians: its rising power alarmed their jealousy, and the more as its conduct was generally favourable to peace and order, and adverse to that predatory warfare in

which they delighted. They were therefore always ripe for hostility to the Achaians, except when they needed their help against more dangerous foes. Accordingly it was not difficult to bring them into combination with Antigonus Gonatas for the destruction of the league. The joint attack was repulsed; and after the death of Antigonus, when the Ætolians were in danger from Demetrius his son, the Achaians were not prevented by the wrongs received from effectually aiding them. Nevertheless, the Ætolians retained their ill will; and after the death of Demetrius they eagerly took part with Cleomenes against the Achaians.

After the defeat of Cleomenes there was an interval of quiet, which the Ætolians did not venture to disturb, as long as they were awed by the power and ability of the third Antigonus. His death emboldened them again to follow their habitual propensity to war and rapine: for they set at nought the unripe age of Philip, the young king of Macedonia, and they deemed themselves a match for the Achaians single-handed.

Dorimachus, a bold and turbulent young man of Ætolia, had been sent by his nation to Phigalea, on the Messenian border, professedly to govern and defend the city, which was a subordinate ally of theirs. He had gathered about him robbers and pirates, whom in the general peace he knew not how to support or employ: he therefore suffered them to plunder the Messenians, though friendship subsisted between them and the Ætolians. At first the plunderers confined their depredations to the flocks and herds that fed about the border; but as they grew bolder, they advanced into the country, and nightly pillaged and destroyed farm-houses. Dorimachus shared in the spoil, and disregarded all remonstrances, till they came so thick that he could not wholly pass them by; and then he said that he would go to Messene, to satisfy the complainants. He went accordingly; but when the injured persons came before him, he laughed at some, and others he threatened and reviled.

While Dorimachus was in Messene, the pirates attacked a house close by the city, killed all who resisted, and binding the rest of the servants led them away, together with the cattle. The Ephori, who were the principal magistrates of the Messenians, summoned Dorimachus to answer for his conduct; and Sciron,

an Ephor, and a man of high character and influence, advised that he should be detained in the city till the property taken should be restored, and the murders atoned for, by giving up the guilty to justice. The proposal being generally approved, Dorimachus took fire. He exclaimed that they were insulting, not himself, but the Ætolian community, and that they should suffer accordingly; and he behaved so arrogantly, that Sciron was provoked to call him by the name of Babyrtas, a Messenian of the vilest character, whom he singularly resembled in person. The taunt was never forgiven: Dorimachus yielded for the present to necessity, promised satisfaction, and was released, but the insult of Sciron mainly determined him to do all in his power to kindle a war.

Dorimachus could not propose to the Ætolians to go to war for a word of contempt addressed to himself by an individual, and in the original quarrel he had been evidently and grossly in the wrong. But he hoped to gain his end through his kinsman Scopas, who chiefly directed the administration of the commonwealth. He reminded him that little was to be feared from the Macedonians, who had now a boy for their ruler; that the Lacedæmonians were always enemies to Messene, and the Eleians friends of Ætolia; and that the Messenian territory, having remained unmolested throughout the war of Cleomenes, was rich in every kind of booty, so that the war would certainly be gratifying to the Many. It was made the pretext of hostility, that the Messenians had entered into alliance with the Achaians and Macedonians—a strange subject of complaint on the part of a nation at peace with both. The arguments of Dorimachus were addressed to a spirit as restless as his own; and so great was the eagerness of Scopas for the war, that he commenced it on his own authority, without awaiting the sanction of the people.

The Ætolian leaders first sent out corsairs, who did not confine their attack to the Messenians, but captured a vessel belonging to Macedonia, and ravaged the coasts of Acarnania and Epirus. This took place while Timoxenus was general of the Achaians; and at the end of his administration Dorimachus and Scopas undertook the invasion of Messenia, considering this to be the period when the Achaians were least likely to oppose them, while Timoxenus was on the point of going out of office, and

his successor had not entered it. The Ætoliæ passed through the territories of the Achaian cities Patræ, Pharæ, and Tritæa. Their generals professed that they meant no wrong to the Achæians; but the cupidity of the soldiers could not be restrained when booty was in view, and they pillaged the country in passing through it, till they came to Phigalea. From Phigalea they entered the Messenian territory, and ravaged it in safety, since the Messenians did not venture to take the field.

At the next general meeting of the Achæians, the deputies of Patræ and Pharæ complained of the ravages committed in their country, and the Messenian embassy requested aid against the unprovoked and most unjust attack of the Ætoliæ on a people allied with them from of old. The assembly took part in the particular wrongs of the complainants, and all were likewise indignant on behalf of the confederacy, that the Ætoliæ should have presumed to violate its territory by marching an army across it without leave. It was voted that help should be given to the Messenians; that the general should assemble the Achæians in arms; and that when so assembled they should determine what was to be done. Timoxenus the general was slack in preparation: for he feared misfortune, considering that the Achæians, since the peace, had neglected exercise in arms. But Aratus, who was appointed to succeed him, was enraged at the presumption of the Ætoliæ: wherefore he urged on the levy by all means in his power; and receiving the public seal from Timoxenus five days before the legal time, he wrote to the cities, and collected the youth in arms at Megalopolis.

When here assembled, the Achæians were met by ambassadors from Messene, who requested admission into the alliance which had been formed, with the Macedonians and others, during the war of Cleomenes. The Achæians answered that this could not be done without the consent of the rest: but that they would succour the Messenians, only requiring hostages that the Messenians would not make peace with the Ætoliæ without their consent. Aratus then sent to require of the Ætoliæ that they should withdraw from Messenia without trespassing on Achæia; and Scopas and Dorimachus, knowing that the forces of the Achæians were collected, prepared to

obey, and passed into the territory of Elis; their closest ally.

Aratus, trusting that the Ætoliæ would depart in the vessels which had been sent from home to convey them, broke up his army, and only kept with him three thousand Achæian foot, and three hundred horse, with the soldiers of Taurion, who commanded a Macedonian garrison in Orchomenus. With these he watched the Ætoliæ. Too weak to bind them by fear to their engagements, he was just strong enough to raise in their jealous minds the suspicion that ill faith was purposed: and Dorimachus and Scopas, partly fearing that they might be attacked in embarking, and partly wishing at any rate to kindle war, put their booty on shipboard, but instead of accompanying it, they led their forces against the band that remained with Aratus. An action took place near Caphyæ in Arcadia; in which, Aratus very unskilfully omitting to join battle while their opponents were crossing the plain, the fight commenced on steep and broken ground, which impeded the Achæian phalanx, and favoured the more desultory forces of the Ætoliæ. The Achæians were defeated, and the Ætoliæ retiring unmolested through the midst of Peloponnesus, made an attempt on Pellene and ravaged the territory of Sicyon.

At the next congress of the Achæians, the Many were loud against Aratus. He had gone into office before his time to take the conduct of a campaign, though in the open field he was known to be neither fortunate nor skilful. He had dismissed his army while the Ætoliæ were in Peloponnesus, though he knew the turbulent character of Scopas and Dorimachus; he had needlessly given battle with a scanty force, when he might have waited and reassembled the Achæians; and in the action itself he had let slip the opportunity of fighting on the most favourable ground, and had engaged on that which was most disadvantageous. Aratus endeavoured to show that the late disaster had not been suffered by his fault, and begged that, if in any thing he had erred, he might be censured with forbearance for human infirmity. The faults of his conduct could not be denied; but his remembered merits and services overcame them; he was quitted from blame and continued to hold the leading influence among his people.

The Achaians resolved that ambassadors should be sent to their allies, to require assistance according to the treaty, and to propose that the Messenians should be admitted into the alliance. That they might be ready to succour the Messenians, if necessary, they voted a levy of five thousand foot and five hundred horse; and they directed the general to settle with the Lacedæmonians and Messenians how many troops they should severally furnish to the confederate army. Each state was rated at half the contingent of the Achaians; so that the whole amounted to eleven thousand horse and foot. On hearing this, the Ætoliens were anxious to throw division among their enemies; and with this view, in their next assembly, they came to a most extraordinary decree. Their original quarrel was with the Messenians, not with the Achaians; and they had before been allied with both; yet they voted themselves friends of the Lacedæmonians and Messenians, but enemies of the Achaians, unless they would renounce the Messenian alliance.

The Epirots, and Philip, king of Macedonia, who were among the chief allies of the Achaians, having heard the Achaian ambassadors, consented to receive the Messenians into the league. "They were little surprised," Polybius observes, "at the conduct of the Ætoliens, who had done nothing unexpected, but only acted after their usual manner. Wherefore also, they were not much enraged, but voted to remain at peace with them: so much more easily is pardon given to habitual injustice, than to unusual and unexpected delinquency." Meanwhile the Lacedæmonians, notwithstanding the liberality with which they had been treated by Antigonus and the Achaians, were secretly negotiating to revolt from their alliance, and to join with the Ætoliens. Skerdilaidas also, an Illyrian chief, who commanded forty piratical vessels, agreed with the Ætoliens, for half the spoil, to join them in an invasion of Achaia: and the business was managed, and the expedition conducted, by Dorimachus and Scopas, while Ariston, the nominal general, remained at home, pretending ignorance, and professing to be at peace with the Achaians.

Cynætha, in Arcadia, had long been troubled with great and inextinguishable seditions, full of mutual expulsions,

bloodshed, pillage, confiscation, and division of lands. The friends of the Achaians had at length prevailed, and held the city, under the protection of an Achaian garrison and general; when the exiles sent an embassy to supplicate reconciliation and re-admission into the city. The prevailing party took compassion on them, and requested the consent of the Achaians to their restoration, which was readily granted. The garrison was withdrawn, and the exiles returned; but the solemn oaths which confirmed their reconciliation were scarcely out of their mouths, when they began to plot the ruin of their restorers, by calling in the Ætoliens. Dorimachus and Skerdilaidas, having entered Peloponnesus, came before Cynætha; and some of the principal military officers of the city, who had been chosen from among the exiles, opened the gates to them by night. These traitors were duly rewarded for their ingratitude; for the Ætoliens, on entering, slew them first, and then carried pillage and slaughter through the city. They next proceeded to a wealthy temple near, which was only ransomed from plunder by a heavy contribution—and hence departing, they encamped before the city of Cleitor. They invited the Cleitorians to revolt from the Achaian league to their own: but their overtures were rejected, and the attack which followed was gallantly repelled. After this defeat they prepared to quit Peloponnesus. They offered Cynætha to the Eleians, who declined to receive it; and the Ætoliens then determined to hold it for themselves. But hearing that an army was on its way from Macedonia, they gave up this project, and burnt the town; and then, returning to the Corinthian gulf, they passed into Ætolia. Meantime Philip arriving at Corinth, but too late for enterprise against them, sent messengers to summon a congress of the allies; and while they were assembling, he led his forces towards Tegea, with the purpose of settling some violent dissensions which had arisen among the Lacedæmonians.

This people, long accustomed to the regal authority, had been without a king since the expulsion of Cleomenes; and the frame of their government had been in a great measure disjointed by the loss of its chief magistrate. The Ephori were paramount, but they were at variance among themselves. Two had hitherto left their party uncertain; the

other three were favourers of the Ætoli-ans, and had shared in all their recent counsels, fully trusting that no effectual opposition could be made by so young a ruler as Philip. Their views were changed by his approach, and by the retreat of the Ætoli-ans. They distrusted Adeimantus, one of their two colleagues, who had been privy to all their intrigues, and was little satisfied with them; and fearing that when Philip came near he might disclose the whole, they resolved to cut him off beforehand. They called together the people in arms, as if the Macedonians were coming against the city. Adeimantus remonstrated that the time for such a summons had been at the coming of their enemies, the Ætoli-ans, and not at that of the Macedonians, their friends and saviours. While he was yet speaking, he was attacked and slain, with many of his supporters, by some young men who had been tutored for that purpose. The massacre proceeded to a considerable extent, and many who feared to be involved in it fled to Philip.

The authors of the slaughter immediately sent to the king of Macedonia, to accuse the murdered persons, to pray that Philip would delay his visit till they had restored tranquillity to the city, and to assure him that their meaning towards him was peaceful and friendly. He answered that he would make his encampment at Tegea, and bid them send thither commissioners to treat with him: and ten persons were accordingly sent, who laid the late commotions to the charge of Adeimantus and his friends, and promised on behalf of their employers that they should faithfully and actively perform all the duties of allies. It was much suspected that Adeimantus had perished for his friendship to Macedonia, and that the Lacedæmonians had secretly been tampering with the Ætoli-ans. Some of Philip's counsellors advised that he should treat them as Alexander had treated the Thebans; others that he should content himself with punishing the guilty persons, and placing the administration in the hands of his friends. The answer given to the ambassadors, Polybius thinks, was dictated by Aratus: it cannot probably be supposed to have been framed by the king himself, who was scarcely come to the age of seventeen. It imported that wrongs done within a confederate state by one party to another, could not properly be the subject of forcible interference on the part of the

league; and that since the Lacedæmonians had not flagrantly violated the common alliance, and now were willing to fulfil its duties, no great severity ought to be used against them. Accordingly the oaths of alliance were renewed with the Lacedæmonians, and Philip returned with his forces to Corinth, where the representatives of the confederate states were now assembled.

The call for war was universal, for all had been outraged. A vote was passed by the assembled deputies, in which, after reciting the injuries of their several constituents, they agreed to co-operate in recovering whatever cities or territories the Ætoli-ans had taken from any of the allies since the death of Demetrius the father of Philip; and further, in restoring to those states, which had been forced into union with the Ætoli-ans, independence, freedom from tribute, and the undisturbed enjoyment of their ancient constitution. Philip then wrote a letter to the offending people, inviting them even yet, if they had any plea to justify their conduct, to a peaceable meeting for the purpose of discussion. Their leaders fixed a day and a place for such a meeting, thinking Philip would not attend it; but when they found that he came, they excused themselves on the ground that they could settle nothing till authorized by the approaching assembly of the nation. The intention of hostility was still disavowed;—with how much sincerity, became apparent by the next election of a general; for the choice fell on Scopas, the chief author of every violence.

After the congress at Corinth, ministers had been sent to every community included in the league, to procure from its general assembly the confirmation of the decree already voted by the representatives of all. The Achæians ratified it without hesitation, and declared war against the Ætoli-ans; and when Philip came to their great council to consult with them on the common interests, they received him very favourably, and renewed with him the friendship which they had maintained with Antigonus. By the other allies the decree was variously received. It was approved and firmly supported by the Acarnanians, though, as neighbours of the Ætoli-ans, and far inferior to them in strength, they were liable to, and had recently experienced, the greatest sufferings from their hostility. The Epirots played a double part, for they promised war to the ambassadors

of the allies, and neutrality to those of the Ætolians. The Messenians were especially bound to be hearty in a war that was chiefly waged for their protection, and the people in general wished to fulfil the obligation: but the government was in the hands of a timid and selfish minority, unused to hazard any thing for honour or for duty; and their caution overruling the more generous movement of the multitude, the ambassadors were told that the Messenians would not venture to take part in the war, as long as the Ætolians held the town of Phigalea on their border.

The Lacedæmonians could not agree on an answer to be given to the ambassadors of the allies, and at last they sent them away without any. The authors of the late massacre were still active, and still pursuing the same objects as before. They procured that an envoy should be sent by the Ætolians to Lacedæmon: they pressed the Ephori to grant him a hearing before the assembly of the people. They also demanded the appointment of a king, that they might be governed according to the custom of their fathers: and the Ephori, disliking both proposals, yet fearing altogether to oppose them, put off to another occasion the question of the re-establishment of royalty, but admitted the ambassador to a hearing. He filled the popular ear with praises of his countrymen, and extravagant invective against the Macedonians. His cause had many warm supporters; but some of the elder citizens, reminding the rest of their liberal treatment by Antigonus, and contrasting it with former injurious conduct on the part of the Ætolians, prevailed on them to maintain their alliance with Philip, so that the ambassador departed without success.

The defeated party now resolved to carry their purpose by violence; and they effected it by the ministry of some young men, who fell on the Ephori, while engaged in a sacrifice, and shed their blood upon the altar. They then proceeded to clear the senate of all who were adverse to the Ætolians, putting some to death, and banishing the rest. After this they easily procured a decree to exchange the alliance of the Achæians for that of their enemies: a measure to which they were partly moved by regret for Cleomenes, and hatred of those who had contributed to his fall.

Cleomenes had passed three years as a banished man at the court of Egypt, expecting aid to re-establish him on his

hereditary throne, which the king was bound, as his ally, to furnish. That period had been marked with the death of the prince who had contracted the alliance; and his son, who succeeded him, looked coldly on the claims of the royal exile. Meanwhile the death of Antigonus, the quarrel between the Achæians and Ætolians, the increasing disposition of the Lacedæmonians to league themselves, according to his own original policy, with the latter, all seemed to offer him the fairest hopes of success in his enterprise. Accordingly he pressed the king to send him out with the requisite supplies of men and provisions; and this request being disregarded, he next begged to be dismissed with his servants only. But his talents and daring temper were formidable to the administration. If they sent him out with fit equipments and supplies, they feared that he might become the lord of Greece, and a too powerful rival of their master. If they dismissed him unattended, he might possibly even then be successful in his enterprise; and if he were so, he would be not only a rival but an enemy. By detaining him in Alexandria these dangers were avoided, but another not less serious was incurred: for all the Grecian mercenaries in the Egyptian service were known to be at his beck, and it was feared that he might use them to overthrow the government, being provoked by ill usage, and emboldened by contempt for the weakness of the monarch. As the safest course, it was resolved to destroy him.

There was then in Alexandria Nicagoras of Messene, an hereditary friend of Archidamus, king of Lacedæmon, and his entertainer during his banishment; who had forwarded the treaty of reconciliation between him and Cleomenes, had become a surety to it, and had accompanied him on his return. After the murder of Archidamus, Nicagoras had professed himself thankful that his own life, and those of his companions, had been spared: but he secretly cherished an abiding desire of vengeance for the perfidy which had made him the unwitting betrayer of his friend; and though his resentment had been grounded on honourable feelings, he was now ready to gratify it by the most dishonourable means. Cleomenes had welcomed him on his landing as a friend, and had vented to him in terms of bitter satire his disgust at the effeminate and profligate manners of the court. These expressions he reported to Sosibius, the chief minister,

who soon perceived in him the instrument he wanted, and urged him on with gifts and promises to the ruin of his enemy. It was agreed that Nicagoras should write to Sosibius, and accuse Cleomenes of plotting an insurrection, in case his demands of aid were not complied with. The minister received the letter, and laid it before the king; and Cleomenes, in consequence, was shut up, and closely guarded in a house which was given him to inhabit. Having now no hope from the friendship of the government, he resolved to strike a blow against it; yet less with the expectation of any prosperous result, than with that of a death becoming his courage, and conducive to his renown. He lulled to sleep the vigilance of his guards, and sallying at the head of his few friends, he met and made prisoner the governor of the city. He ranged the streets inviting the multitude to liberty, but no man answered to his call; he then endeavoured to break open the public prison, but found it too strongly guarded, and too well made fast. This last hope having failed, both he and his companions immediately slew themselves. Thus perished, says the nearly contemporary historian, Polybius, who was not his friend, "a man of most agreeable conversation, of great ability in the conduct of affairs, and altogether chief-like and kingly in his nature." To this may be added the praise of a patriotism, which, though not untainted with more vulgar ambition, was yet mainly directed to real reform in government and public morals. But on the other hand it must be owned that the fame of Cleomenes is blotted with many a stain of blood; and some of treachery.

The memory of Cleomenes was fondly cherished by the people whom he had governed, and while he lived they never gave up the hope of his return, nor admitted the thought of appointing another to be king in his room. About the time of the last-mentioned commotions, they were assured of his death; and they then proceeded to the choice of two kings. One of these was the lawful heir of the Eurystheneid house, Agesipolis, the grandson of that Cleombrotus, who had been made king when Leonidas was banished. Of the Procleid house there were many living, among whom were two sons of Archidamus: but all these were passed over to make room for Lycurgus, a stranger to their blood, "who, by giving to each of the Ephori a

talent, became a descendant of Hercules, and king of Sparta."—*Polybius*.

Machatas, the late Ætolian ambassador, now returned to Lacedæmon, and exhorted the kings and the Ephori to immediate hostility against the Achæians, as the only means of disarming the workers of disunion between his people and their own. His advice was followed: Lycurgus entered the territory of Argos, and took several towns the more easily, as his attack was unexpected. The Eleians also were persuaded by Machatas to declare against the Achæians; and the Ætolians were now full of confidence, the Achæians of anxiety—for Philip was engaged in preparation, the Epirots were dilatory, and the Messenians quite inactive. But before beginning the story of the war, we will shortly advert to some important transactions which took place about the time of its breaking out.

Byzantium was so placed on the narrow channel, by which the Euxine sea communicates with the Propontis and the Ægean, that a vessel could hardly make the passage without being carried by the current to its port. Its situation was most advantageous for its traffic with either, as well as for the protection or hinderance of the trade which the Greeks carried on with the countries round the Euxine for various necessities, especially grain, which their country produced very insufficiently. As a set-off against the maritime advantages of its position, it was entirely hemmed in on the landward side by hordes of fierce barbarians, from whom its inhabitants were obliged to suffer an unceasing predatory war, or to buy a doubtful peace by heavy payments. Almost worn out by the ceaseless struggle, they had craved assistance from the states of Greece, but unsuccessfully, though it was important to all that Byzantium should be held by a Grecian people. The Byzantines then availed themselves of their commanding situation to take the relief which their petitions had failed to procure. They levied a heavy toll on every vessel which passed the straits. Loud complaints were made; the Rhodians were called on to redress the grievance, as the leading maritime power of the age; their ambassadors went to Byzantium to remonstrate against the impost, accompanied by ministers from their allies; but the Byzantines maintained their claim as just and reasonable, and war broke out between the states. The Rhodians were the stronger,

and they were assisted by Prusias, king of Bithynia; while the hopes were disappointed which their adversaries had placed in some other potentates of Asia. The Byzantines, therefore, were soon obliged to submit; and peace was granted to them on the condition that they should cease to levy the offensive tolls.

About this period some violent and bloody commotions took place in Crete, once the cradle of Grecian civilization, but long since distinguished only as the dwelling-place of a lawless and faithless people, or as a wasp's nest of freebooters and mercenary soldiers. Two cities, Gnossus and Gortyna, had combined for the subjugation of the rest, and had brought under their dominion all save Lyttus, which they attacked with the determination of destroying it altogether, that it might serve for a warning and terror to the disobedient. The Lyttians were besieged by an army gathered from all the states of the island, when dissension arose in the leaguer from some trifle, as Polybius observes, "according to the manner of the Cretans," and several townships suddenly revolted from the Cnossians to their enemies. Even in Gortyna itself, while the elder citizens clove to the Cnossian alliance, the younger part were mostly favourable to the Lyttians. To aid in recovering their ascendancy, the Cnossians procured a thousand auxiliaries from Ætolia. The elder Gortynians occupied the citadel, introduced into it the Cnossians and Ætolians, killed some and banished others of the young men, and placed the city at the disposal of the Cnossians.

Soon afterwards, hearing that the people of Lyttus had gone out with all their forces to the war, the Cnossians surprised the unguarded city, and burnt and wholly demolished it, carrying away with them the women and children. The returning Lyttians saw the ruin, and could not bear to come within the circuit of their desolated home. They marched all round it with bitter wailings, then turned their backs on it, and went to Lampe, a city allied with them, where they were most hospitably received. Converted in one day from citizens to sojourners, they still made war upon the Cnossians, and perhaps more actively, as they had more to avenge. As the Cnossians had strengthened themselves by alliance with the Ætolians, the

Lampæans and their confederates applied to the Achæians, and obtained an auxiliary force. Thus assisted, they were able to compel the revolt of several towns from the hostile confederacy. They then in their turn sent five hundred men to the assistance of the Achæians. The Cnossians had already sent a thousand to the Ætolians; and to the end of the war both parties were strengthened by troops from Crete.

SECT. II.—The quarrel between the Ætolians and the Achæians had ripened from a tissue of desultory hostility and intricate negotiation to a regular war, in which each party knew on whom it might reckon both for friends and enemies. Philip now advanced through Thessaly and Epirus, with the purpose of invading Ætolia. Meantime a plot was laid by Dorimachus and another Ætolian leader, to surprise the Achæian city of Ægeira on the Corinthian gulf. The Ætolians crossed the gulf by night, and landed near the place. Twenty men went before with a deserter from the garrison, who led them over crags and along a watercourse into the city. They seized a postern, slew the watch, and opened the gate to their countrymen, who poured in eagerly, and straightway fell to plunder. This indiscreet avidity saved the town; for while they were scattered confusedly through the houses, the inhabitants gathered in force on a height which, though unfortified, served the purpose of a citadel. Dorimachus went against them, and a desperate struggle ensued, the townsmen fighting for their homes and children, the intruders for their lives. At length the Ætolians began to give way, while their opponents increasing in confidence pressed on them yet harder, till they drove them precipitately down the hill. Many fell by the sword, many perished trodden down in the throng and struggle round the gates; many who escaped this danger were tumbled from precipices in the hurry of their flight. A scanty remnant gained the ships, and these dishonoured by losing their arms; and the fleet set sail to recross the gulf in discomfiture and disgrace.

About the same time Megalopolis was attacked by Lycurgus, king of Lacedæmon; and Euripides, who commanded for the Ætolians in Elis, ravaged the lands of Dyme, Phæræ, and Tritæa. He was attacked on his return by the united forces of these states, but he de-

feated them and re-entered the territory of Dyme. The three towns then applied for succour to the Achaian general, the younger Aratus, son to the deliverer of Sicyon; but their message found him in an embarrassing situation. In consequence of a failure on the part of the Achaians to pay to their mercenaries all that was due for their service in the last war, he was now unable to raise a body sufficient for the present need. This difficulty being added to considerable sluggishness and timidity which he shewed in conducting operations, his distressed confederates remained without relief, till they were driven to a measure of very pernicious example. They agreed to withhold their contributions from the league, though they had been among its original promoters, and to employ the money in supporting a body of mercenaries, to be used for their own protection.

As soon as Philip entered Epirus, he was joined by all the forces of that country. If he had advanced forthwith into the land of the Ætolians, without allowing them time for preparation, he might probably have ended the war: but he suffered himself to be diverted from this by the persuasions of the Epirots, who wished him first to besiege a fortress, by gaining which they hoped to be enabled to recover Ambracia from the Ætolians. Meanwhile Scopas assembled the forces of his countrymen, and led them through Thessaly into Macedonia. They ravaged the country widely, and coming to the town of Dium, which the inhabitants abandoned at their approach, they burnt and destroyed it, not sparing even the buildings or ornaments of the temples, or the erections for the convenience of the worshippers who assembled there in great numbers at the periodical festivals. They went home triumphant, laden with spoil, and confident that no one would hazard the invasion of their country: but Philip, having taken and delivered to the Epirots the place which he was besieging, pursued his march into Ætolia. He was reinforced by the Acarnanians in passing through their territory; after which, encamping near the river Achelous, he wasted the lands of the enemy unopposed. Ambassadors now came to him from the Achaians, to request his presence and aid in Peloponnesus: but he, replying that he would consider on their wishes, detained them with him, while he led his army deeper into Ætolia. He there took and demolished several

towns and strongholds, and lastly mastered the important city of Cœniadæ, at the mouth of the Achelous. This place he carefully fortified for a naval arsenal, and a port from which to pass into the peninsula. While he was engaged in these works, there came news from Macedonia that the Dardaniæ, a neighbouring barbarous people, were preparing for an inroad. He hastened home; the Dardaniæ, hearing that he had returned, broke up their army, though they were already on the frontiers; and Philip, when he found that the danger was over, dismissed the Macedonians to gather in the harvest.

The time now came for the annual election of a general by the Ætolians, which took place near the autumnal equinox. Dorimachus was chosen, who went out forthwith on an inroad into Epirus, in which he not only ravaged the country in a manner more than usually destructive, but flagrantly outraged all that his age deemed holy, by burning the oracular grove and temple of Dodona, one of the oldest and most venerated seats of Grecian religion.

The Ætolians had returned to their homes, and winter had set in, when Philip suddenly arrived in Corinth, at the season when friends and enemies least expected him. The city gates were shut, the ways were guarded, while messengers were sent to the Achaian states to appoint a rendezvous; and so well was the purpose of these precautions answered, that Philip, in advancing towards the place of meeting, fell in with and entirely defeated the Ætolian general, Euripides, who was entering the Sicyonian territory, with a considerable body of Eleians and mercenaries, in perfect ignorance that a Macedonian army was so near. After this success he joined the Achaians, who increased his forces to ten thousand. Several towns were taken by the confederate powers, all which Philip gave up to the Achaians; and the army being led into the country of the Eleians, enriched itself with the plunder of a region unrivalled for the perfection of its culture: for the lot of this people had fallen in a naturally goodly, fruitful, and pleasant land; and they had enjoyed it for many ages undisturbed by war, under the protection of their sacred character, as the servants of Olympian Jove, and managers of his festival. Thus ensured against aggression, instead of fixing their dwellings, like the other Greeks, in the shelter of a

town, they lived among their fields, and spent their incomes in embellishing their country-houses, and improving their estates: inasmuch, that there were wealthy families among them, which, for two or three successive generations, had never set foot within the city. The sacredness of their territory was infringed, as we have seen, in a quarrel with the Arcadians, in the course of which the presidency of the Olympian festival became itself a subject of dispute by arms. The immunities then violated they never attempted to recover; madly preferring, as it should seem, the hazard and the excitement of war, to the safe enjoyments of tranquillity. But their rural attachments and habits still continued, though deprived of the security which had nursed them; and the losses to which they were liable from invasion were therefore peculiarly great.

Philip's behaviour as general of the confederate army had hitherto been moderate and popular; and by these qualities as well as by the military talent which he had shewn, he had placed himself high in the good opinion of the Peloponnesians. He had, however, advisers who prompted him to a different line of conduct; among whom was Apelles, lately one of his guardians, and still his most favoured and trusted friend. He wished to reduce the Achæians to the same condition with the Thessalians, who were governed indeed in outward show as an independent people, but in fact as subjects of Macedonia. To bend them gradually to the yoke, he began by treating them on all occasions as inferior to the Macedonians, whom he suffered to take what quarters they would, even though they pitched on those already occupied by Achæian soldiers; and, more than that, to take from their allies the booty which they had gathered. He next directed his attendants for trifling causes to lay hands on the Achæians, and punish them with stripes, though none but their own officers had legal authority to arrest or chastise them; and if any complained of the injury, or defended the injured persons, he came in person, and led him away to prison. This was speedily checked: some young men of the Achæians made complaint against Apelles to Aratus (the father), who brought them to Philip; and he, on receiving their remonstrance, assured them that these things should not be repeated, and charged Apelles to lay no com-

mand upon the Achæians unless with the approval of their general.

Philip next invaded Triphylia, a maritime district, bordering on Messenia and Eleia. He was here opposed by an Eleian army, with an auxiliary body recently sent by the Ætolians, the whole being under Philidas, the Ætolian commander. This leader at first divided his forces, to defend the several towns; but when one of the strongest of these had been taken by Philip, he resolved to gather all together in the city of Lepreum. In abandoning the town which he had himself undertaken to defend, he plundered several of his own friends before he quitted it; and this may probably have completed the rising dislike of the Ætolians, as oppressive masters and faithless allies, which seems to have co-operated with the terror of the Macedonian arms in moving all the Triphylians to renounce them. Even the Lepreates themselves, though they had in their city nearly three thousand soldiers, including mercenaries, of the Ætolians, Eleians, and Lacedæmonians, resolved to quit their present confederates, and join themselves with the Achæians. They took up a position in the city, and required the garrison to depart. Philidas refused at first, confiding in his force, and in the possession of the citadel; but when he found that the townsmen adhered to their determination, and the Macedonians were near, he consented to withdraw in peace with his followers. The Lepreates then submitted to Philip. Their example was followed by the remaining towns of the province, and Philip, after reducing all Triphylia in six days, went to Megalopolis, and thence to Argos, where he passed the remainder of the winter. †

About the same time a considerable commotion took place in Lacedæmon. Chilon, a Spartan of royal blood, and the rightful heir, as he conceived, to the sceptre of Procles, could not endure that his claim should have been disregarded in favour of a stranger such as Lycurgus. He therefore planned a revolution, to be effected by the favour of the multitude, to whom he held out the hopes of a division of lands. Having communicated with his friends, and obtained about two hundred associates in the plot, he began by attempting to assassinate Lycurgus, and the Ephori who had placed him on the throne. The Ephori were surprised at supper, and slain; but Lycurgus, the most important

victim, with difficulty, escaped. Chilon entered the market-place, attacked his enemies, exhorted his friends, made promises to the multitude; till, finding no support, he saw that his cause was hopeless, and secretly fled into the Achaian territory.

Apelles still retained his purpose of bringing the Achaians into subjection; and seeing that the chief bar to his success was the influence of Aratus both among his countrymen and with Philip, he endeavoured to undermine that influence by all the means in his power. He cultivated an interest among the party enemies of Aratus, encouraged them to go on, introduced and recommended them to the king. "For if," he told him, "you attend to Aratus, you must use the Achaians as is written in the treaty; but if you chuse such friends as I am bringing you, you may use all the Peloponnesians as you will." He thus prevailed on Philip to countenance his designs, one of which was to interfere at the coming election of a general, in such a manner as to throw the choice on an opponent of Aratus. The election arrived; the Macedonian host was led near the scene of it under the pretext of passing into Eleia; Apelles canvassed actively, persuading some and threatening others, till, by great exertions, he obtained the appointment of Eperatus, the candidate he favoured. The army then proceeded on an inroad into Eleia, and gathered there great spoil.

Apelles now brought into play a fresh engine against Aratus. Amphi-damus, an Eleian general, being made prisoner by the Macedonians, had undertaken to bring his countrymen into their alliance: and Philip had dismissed him unransomed, and directed him to offer that their prisoners should be freely restored, their territory defended against all attack, and that they should enjoy their possessions in perfect independence, without receiving garrisons or paying tribute. These proposals, though very tempting to men who had been chief sufferers in the war, were notwithstanding rejected; and Apelles laid it to the charge of Aratus and his friends that they had secretly dissuaded Amphi-damus from urging them, by predicting danger to all Peloponnesus, should the Eleians be brought under the influence of Philip. The king at first gave ear to the slander: he directed that Aratus and his princi-

pal associates should be called, and bid Apelles repeat his accusations in their presence. He did so, and added that the king, having found them so unthankful, would return into Macedonia, having stated to the Achaians his reason for forsaking them. Aratus deprecated a hasty decision, and prayed that the matter might be more accurately examined; and Philip granted time, and promised attention to the inquiry. In the days which followed no proof was given by Apelles of his charge; while a lucky occurrence supplied to Aratus the most satisfactory means of vindication. Amphi-damus being suspected of unfaithfulness by the Eleians, was about to be arrested and sent into Ætolia, when he fled to the Macedonian camp. The accused Achaian leaders, hearing of his arrival, requested Philip to examine him. His answers proved them innocent, and the result of the whole was to place them higher and to sink Apelles in the king's esteem and favour.

Philip was now in want of supplies for his forces, which could only be obtained from the general assembly of the Achaians. He found on the meeting of the Assembly that the friends of Aratus no longer exerted their authority in his favour, being disgusted that, at the late election of a general, Apelles should have interfered to overawe the voters and throw out their candidate. Eperatus, who had been chosen through the influence of the Macedonians, was weak in ability and low in estimation: and Philip, therefore, deeming it best to recur to the Arati, came to an explanation with both of them, in which he laid on Apelles all the blame of whatever he had done amiss, and prayed them still to be his friends, as before. His conciliatory overtures were readily accepted, and the Arati now supported his wishes: so that his present needs were largely supplied by the Achaians, and permanent provision made for the future. He then resolved to bring the war to a speedier decision by raising a navy. The remainder of the winter was spent in making seamen of his Macedonians, who proved themselves ready learners, and soon became as fit for service by sea as by land. But in the execution of this plan he met with difficulties, arising from fresh and still more criminal intrigues of Apelles.

Antigonus at his death had carefully provided lest the interests of his ward should suffer during his minority, or

the peace of the kingdom should be disturbed. To cut off as far as possible all occasion of cabal, he had filled up all the principal offices both civil and military, and directed that those whom he chose should continue to hold them till the king should be of age. He appointed Apelles to be one of the king's guardians; Leontius to command the targeteers; Megaleas to keep the records; Taurion to manage affairs in Peloponnesus, and Alexander to lead the royal guards. But Apelles was ill-satisfied with the measure of power allotted to him as a guardian by Antigonus, and continued to him afterwards by Philip as a confidential adviser and a person to whose opinion he had been accustomed to bow. He bent his mind to overthrow an arrangement which gave him so many partners in authority. Leontius and Megaleas were absolutely at his bidding, but not so the other two; and these he therefore endeavoured on all occasions to disparage. Against Taurion he did not venture to proceed by open expressions of blame, but he endeavoured, by faint and guarded praises of his soldiership, to hint a doubt of his political capacity. His arts might probably have been crowned with success, had he not at the same time incurred a disgraceful failure by his attack on Aratus. As it was, his credit sunk daily lower, till disappointed ambition drove him to treason. He agreed with Leontius and Megaleas to hinder the royal service by all means in their power: and it was settled that they, remaining with the army, should be sure to fail in the time of need, while Apelles would fix himself in Chalcis, and prevent the sending of provisions and supplies.

At the coming of Spring, Philip sailed from Corinth with his own fleet and with that of his allies to conquer Cephallenia, an island valuable to either party in the war, as well for its fruitfulness as for its situation. It had hitherto been chiefly by the shipping of the Cephallenians that the Ætolians had passed into Peloponnesus, or had ravaged the coasts of Acarnania and Epirus; and Philip wished to deprive them of this resource, and himself to occupy a position which commanded both the Eleian shores and those of Ætolia. He landed on the island, invested Pale, one of its chief cities, and, the works being diligently and skilfully carried on by the Macedonians, a

breach was soon made in the walls. The besieged still refused to surrender, and the targeteers under Leontius were ordered to the assault. Three times they were on the point of passing the breach, when they were checked in their advance by their treacherous leader, seconded by many of those in subordinate commands, whom he had previously corrupted. They were roughly handled and beaten back, though fully capable of winning the place; and Philip, seeing the losses of his troops and the misconduct of his officers, gave up the siege.

At the time when Philip conquered Triphylia, the neighbouring people of Phigalia had risen in arms against the Ætolians who garrisoned their city, and compelled them to depart. Thus relieved from the fear which had kept them inactive, the Messenians now took part in the war, and they had contributed their portion to the armament in Cephallenia. During the siege of Pale, their country was invaded by the Lacedæmonians under Lycurgus, while Dorimachus about the same time entered Thessaly with half the forces of his nation: and Philip at once received ambassadors from the Messenians and Acarnanians, the first requesting him to come to their protection against Lycurgus, the other to take this so favourable opportunity for ravaging all Ætolia. It was during the prevalence of the Etesian, as they were called, or annual winds, which blew from Cephallenia directly towards Messenia; and the Messenians suggested to Philip that his fleet might make the passage in one day, and he would thus be enabled to fall on Lycurgus unforwarned and unprepared. Leontius eagerly supported the views of the Messenians; for he considered that the same winds which carried the armament to their shores would effectually hinder its return; and that thus after driving Lycurgus out of their country, it must waste the remainder of the summer in inaction, while the Ætolians might work their will on Thessaly and Epirus. The opinion of the Acarnanians was supported by Aratus, and Philip was the more readily persuaded to adopt it, because the repulse at Pale had opened his eyes to the unfaithful dealing of Leontius. He prepared forthwith for the invasion of Ætolia; but that the Messenians might not be altogether unassisted, he wrote to Eperatus, and requested

him to succour them with the forces of Achaia.

As soon as Philip landed on the continent he was joined by all the Acarnanians who were capable of bearing arms. They had previously suffered many grievous calamities at the hands of their dangerous neighbours; and so eagerly did they embrace the opportunity of taking vengeance by the help of the Macedonians, that there came to the muster not only those whom the law required, but many whose age exempted them from the call. Like causes had produced like feelings in the Epirots; but their gathering was delayed by the extent of their country, and the unexpectedness of Philip's arrival, so that the Macedonians and Acarnanians entered Ætolia without them.

The leading city of the Ætolians was Thermum. It was the place where their national assemblies were convened and their magistrates elected; where fairs were held and festivals celebrated; where the people met whenever brought together for business or pleasure. It naturally followed that their wealth and splendour should be mainly gathered within its walls, especially since it bore the character of great security as well as convenience, being situate in a most rugged district, hitherto untouched by the foot of an enemy. Against this important place Philip directed his march. The suddenness of his arrival, the rapidity of his advance, the present weakness of the Ætolians, while half their young men were with Dorimachus in Thessaly; their confidence that none would ever venture into the difficult passes leading to their capital, in the face of a people eminently formidable in mountain warfare; all these, it was calculated, would secure his progress from interruption, if he gave no time to learn his purpose and prepare for opposition. Aratus, therefore, called for the utmost celerity of movement; and it was in vain that Leontius demanded delays, to refresh the soldiers, as he said, but really to give time for the Ætolians to gather.

The army proceeded by forced marches, which were executed with the greatest alacrity and vigour, and wasted all the lands in its way, till it came to a tract of thickly-wooded highlands, through which it was necessary to defile with caution and compactness, as well as with celerity. It passed them safely, and advanced towards Thermum by a

rugged, steep, and narrow road, with deep precipices on each side. The Ætolians were taken quite unprepared; the troops advanced without opposition; the towns were abandoned at their approach, and nothing delayed them but the necessary precaution of garrisoning posts at either outlet of the most perilous defiles, to protect their return. Philip gave up to plunder the town of Thermum, the surrounding villages, and the fruitful plain below; and the booty amassed by the soldiers was enormous, as may easily be inferred from the considerations that the country had long flourished in uninterrupted tranquillity; and that the city, besides that it was the capital of Ætolia, was also, in general belief, the safest repository for whatever possessions were most precious, and most liable to hostile spoliation. Of the furniture, arms, and other moveables, the most valuable and easiest of carriage were selected, the remainder piled up and burnt; and thus far Philip had not exceeded a severe application of the acknowledged rights of war. But it is truly said by Polybius that he made himself the imitator rather than the avenger of crime, when, in retaliation for the impieties which the Ætolians had committed at Dium and Dodona, he demolished the temples, overthrew the statues; and thus, by acts in no wise diminishing the military resources of his adversaries, waged war with the religion of his country, and with the arts which minister to liberal enjoyment.

Philip returned to his ships by the same road by which he had come from them, successfully repelling two attacks upon his rear, which were made by different bands of the Ætolians. On arriving at the encampment he invited his officers to a feast, in honour of the successful completion of a hazardous, and what had hitherto been deemed a desperate enterprise. Leontius and Megaleas were present with the rest. Amidst the general rejoicing their troubled visages confirmed the suspicions that hung on them before; and as the revel went on, their disgrace was completed by a fit of drunken fury, in which they searched the camp for Aratus with a party of their friends, and, having found him, began by reviling him, and then assailed him with stones. Assistants flocked to either party, and the riot increased till, Philip hearing it, sent to part the fray, and to learn its cause.

Leontius slipped away in the tumult, but Megaleas was brought before the king, who severely reprimanded him. But he, far from expressing contrition for his fault, declared himself determined to persist till he should have given Aratus his due. At this the king took fire, and cast him into prison, till security should be offered for his paying a fine of twenty talents (upwards of 4,000*l.*) Leontius hearing it, came to Philip with some of his targeteers, in the hope that on account of his youth he might be easily intimidated. He asked him who had dared to carry Megaleas to prison; but when the king replied with firmness that he had ordered it, his courage failed, and he went away full of rage and fear. Megaleas was brought to trial; and proof being produced by Aratus of his evil practices with Leontius and Apelles, he was condemned and heavily fined. Leontius, however, who was not proved to have been an actor in the tumult which was the immediate cause of his punishment, becoming his security for the payment, he continued at large.

About this time Lycurgus returned from his expedition into Messenia, without having effected anything worthy of notice; and afterwards went against Tegea with the like success. Dorimachus also returned from his inroad into Thessaly. He had undertaken it in the hope of withdrawing Philip from the siege of Pale, and of finding an undefended country and an easy booty. Instead of that, he found the officers of Philip ready to oppose him in the field; and while he was watching them from the mountains, and did not venture to descend into the plain, he was called home by the news that Philip was ravaging Ætolia. He returned in haste to the defence of his country, but found himself too late, for the Macedonians, after effecting the purpose of the expedition, had retreated in safety.

Philip returned to Corinth, and thence proceeded to Tegea. He joined his army with such of the Achæians as were there assembled, and forthwith advanced into the territory of Lacedæmon, scarce twelve days after he had quitted Ætolia. The terror inspired by his late successes was increased by the rapidity of his movements and the suddenness of his coming. He passed through the country unopposed from the mountains to the sea, and wasted it at his pleasure. Meanwhile the Mes-

senians, who had been summoned to meet him at Tegea, arrived there after his departure, and boldly resolved that they would endeavour to join him in the enemy's country. They were surprised by Lycurgus and driven from their camp, with the loss of their horses and their baggage: and this success encouraged the Lacedæmonian rulers to prepare for a general battle with the Macedonians, who were now at Amyclæ, near to Sparta. It was necessary for Philip to pass between the city and a hill upon the river-side, which Lycurgus had occupied with a strong detachment; and this movement had been rendered more dangerous by the Lacedæmonians, who had narrowed the passage by damming up the river, and thus flooding some of its bank. But Philip first dislodged Lycurgus from his post, and then advanced, successfully repelling an attack which was made from the city. He crossed the river, and encamping in a safe and convenient situation, he began to prepare for his return to Tegea. He quitted Laconia unmolested, and proceeded to Tegea, and thence to Corinth.

While Philip remained in the neighbourhood of Corinth, to conduct some negotiations in Phocis, Leontius and Megaleas made another attempt to bring him under their influence by intimidation. For this purpose they circulated rumours among the soldiers, importing that their proper share of booty was denied them. A violent mutiny ensued; but at the appearance of Philip it was quickly suppressed. The king well knew by whom the tumult had been kindled, though at that moment he did not venture to proclaim his knowledge. Meanwhile Leontius, at length despairing of success to be gained by his own exertions, was earnestly pressing Apelles to return from Chalcis. He had acted there in such a manner as entirely to overshadow the authority of the king, whom he described as a mere boy, and entirely under his direction. Accordingly the magistrates and officers in Macedonia and Thessaly were in the habit of accounting to him; and even in complimentary decrees and addresses from the citizens of Greece, his name was more conspicuous than that of the monarch. At the summons of Leontius he hastened to Corinth, fully confident of obtaining whatever he wished, as soon as he came into Philip's presence. He

made a splendid entry into the city, attended by a multitude of soldiers, and by many officers of rank, who had gone out to meet him. He proceeded at once to the royal apartments, and was entering them as he had been accustomed, when he was stopped by a warder, who told him that the king was not at leisure. After standing awhile in astonishment he silently departed; his train immediately melted away, and he entered his quarters unaccompanied, except by his own family. He was now admitted to festive meetings, but not to those which were held for the transaction of business. On seeing his unfavourable reception Megaleas fled, and left Leontius to answer for his fine. Then Philip cast Leontius into prison, having first sent away the targeteers whom he commanded, under pretence of an expedition into Triphylia. But the soldiers heard of their leader's imprisonment in time to send a deputation to the king. They declared that if Leontius were imprisoned for the fine, they would raise the money among themselves to pay it; but if for any other matter, they requested that the trial might not take place in their absence, for if it did, they should hold themselves greatly slighted. Such freedom as this, Polybius observes, the Macedonians were ever wont to use towards their princes. In the present case, however, their intercession only exasperated Philip, and induced him to send Leontius to execution more hastily than he had intended.

At Philip's arrival in Corinth, he had found there an embassy sent by the Rhodians and Chians to mediate a peace. He had answered that he was then and ever desirous of accommodation, and had sent them on to make their proposals to the Ætolians. They now returned with the news that the Ætolians wished for peace, and had consented to an immediate suspension of arms for thirty days; and they named a day on which they requested that Philip and his allies would meet the Ætolians at Rhium, and promised that the latter would agree to every thing that was necessary to a fair and equal peace. Philip consented, and went to Patræ, to be ready for the meeting; and here there were brought to him some intercepted letters of Megaleas to the Ætolians, in which he exhorted them to persevere in the war, assured them that Philip's affairs were nearly ruined for want of sufficient supplies, and spoke

of the king himself in terms of great reproach and contempt. Upon this Philip, who considered Apelles as the chief mover in every mischief, arrested him, with his son, and sent them to Corinth; and they shortly after perished, the historian informs us, implying apparently that they were put to death in prison without form of trial. Megaleas was at Thebes, whither he had gone for refuge after an unsuccessful attempt to obtain admission at Athens; and an officer was sent to sue him in the Theban courts for the fine he had incurred. Despairing now of safety, he slew himself, without awaiting judgment.

The Ætolians had willingly listened to the proposal of peace, to be freed from a war in which their success had been very different from what they had expected; but when they heard of the disturbances in the Macedonian army, and of the fate of Apelles and Leontius, they put off the appointed meeting, with the hope that some great and dangerous convulsion might ensue among the Macedonians, and that they might so be enabled to recover the superiority in the war. Philip gladly seized on this as a pretence for breaking off the negotiation; for he was not more sincere than they in his anxiety for peace, and he was confident of success if the war were continued. He exhorted his allies to pursue the war with vigour, and returned to Corinth, after which he dismissed his Macedonians to winter at home, and himself soon followed. About this time Lycurgus fled from Sparta into Ætolia, through fear of the Ephori, to whom he had been accused of meditating a revolution; but shortly after, finding the charge to have been false, they recalled him, and reinstated him in his office.

During the absence of Philip, the Achæians were almost defenceless through the incapacity of their general, Eperatus. The armed citizens held him cheap, the mercenaries entirely disregarded him; his commands were not obeyed, and nothing was ready for the protection of the country. This encouraged Pyrrhæas, the Ætolian general, to invade Achaia, and he ravaged the greater part of it unopposed. The cities finding no aid from the league grew slack in contributing to its support; the pay of the soldiers fell short, which increased their insubordination and consequent inefficiency; and these evils mutually exasperated each other. In this state were affairs when the period of Eperatus's

command expired. The elder Aratus was chosen to succeed him, and immediately put forth all his energy in providing means to carry on the war, in restoring order to the general administration, and discipline and activity to the army.

A plan had been arranged between Lycurgus and Pyrrhias for a simultaneous irruption into Messenia, from the Laconian side, and from that towards Elis. Aratus being informed of it led his forces to Megalopolis to oppose them. But the advance of Pyrrhias was stopped on the border by the people of Cyparissus; and Lycurgus, who had entered Messenia, being thus disappointed of the expected co-operation, and thinking himself not a match for the Achæians without it, retreated to Sparta. Aratus then agreed with the Messenians, and with Taurion, the Macedonian, that each should furnish five hundred foot, and fifty horse, to defend the Messenian, Megalopolitan, Tegean, and Argian frontier. A permanent protection was thus assured to those states which had to bear the brunt of Lacedæmonian hostility; while Aratus himself undertook with the forces of the Achæians to defend the sides that were open to the Ætolians and Eleians.

Megalopolis, as we have seen, had been taken by Cleomenes, and demolished because of the resolute fidelity of its inhabitants to their allies. The defeat of their enemy had enabled them to return, unbroken in spirit, but miserably crippled in resources. The state was disorganised; the common burdens pressed on all with intolerable weight, but the manner of their apportionment was a subject of dispute: all discussions were embittered by the irritability of wretchedness, so that the place was full of strife and angry passions. They first disputed as to the walling of the city. One party maintained that the circuit should be lessened, so that their numbers might suffice to man the whole; for the former capture, they said, had been occasioned by its too great extent, and the inadequacy of their small numbers to its defence. They further deemed it right that the great proprietors should contribute a third of their possessions, to be assigned for the support of a body of new citizens, with whom the state should forthwith be strengthened. Others would neither agree to contract the city, nor to give up a third of their estates. Another subject of dissension was found in the laws com-

posed for them by Prytanis, a Peripatetic philosopher, whom Antigonus had sent to them for a legislator. Aratus settled all their differences, and re-established harmony among them; but the historian has not stated the terms of reconciliation.

Aratus now returned to the congress of the Achæians, leaving the command of the mercenaries to Lycus of Pharæ; who met and defeated the Eleians, under the Ætolian general Euripides, by whom Pyrrhias had, at their request, been superseded. Many were slain or made prisoners, and all the baggage was captured. By sea, too, many prizes were taken; and all the booty being sold together raised a considerable sum, which cheered the soldiery by assuring them of their pay, and the citizens by the hope of lighter taxation. In the course of the summer the Eleians were again defeated; while part of the Ætolian coast was ravaged by the fleet, and the inhabitants were twice discomfited in attempting to protect their lands. The Ætolians ravaged Acarnania; and the Acarnanians undertook to retaliate the invasion, but their purpose was frustrated by a panic terror which seized their army.

Meanwhile Philip occupied Bylazora, the chief city of Pæonia, and a post of great importance to the protection of his kingdom against the Dardanians, since it commanded the chief passes from their country into Macedonia. Proceeding thence he was joined at Edessa by the forces of Upper Macedonia; he came on the sixth day to Larissa in Thessaly; and thence he made a night-march to surprise the town of Meliteia, an attempt which only failed through the neglecting to provide ladders long enough. But the chief object of the expedition was a city on the borders of Thessaly and Magnesia, which was called the Phthian Thebes, to distinguish it from its more celebrated namesake in Bœotia. This place was now in possession of the Ætolians, and from it they were wont to issue continually for plunder and ravage, to their own great profit, and to the exceeding injury of the neighbouring Thessalians. Philip commenced the siege, and pressed it vigorously. His army was powerful, and very abundantly provided with warlike engines; and in spite of a resolute defence the approaches were soon completed, and a breach was made in the wall. All was ready for the assault, when the garrison surren-

dered. With the cruelty too usual in Grecian warfare, Philip sold all the inhabitants for slaves, and peopled the city with Macedonians. At the same time he changed its name from Thebes to Philippopolis, the city of Philip; as if the annihilation of a community, the enslaving of its citizens, and the transfer of their national inheritance to strangers, had been glorious deeds, and worthy of being commemorated to the enduring honour of their author.

The Macedonian prince next turned his attention to the chastisement of his hired auxiliary, the Illyrian Skerdiailas. He, considering that he had not received the full reward of his services according to agreement, had resolved to pay himself by treachery or force. He sent fifteen of the light vessels used by his countrymen to the port of Leucas, where they were received as friends without suspicion; and suddenly attacking four ships belonging to the squadron of Taurion, they took them, and sent them with the crews to Skerdiailas. From Leucas, they sailed to the promontory of Malea, and cruised about it, plundering indiscriminately all the traders whom they met; and thither Philip went in pursuit of them, but finding that they were gone, he directed his fleet to sail round the peninsula, and meet him at Lechæum, and went in the meantime into the territory of Argos, to be present at the Nemean festival. Here news was brought to him which entirely changed his plans and inclinations, and made him at length sincerely desirous of peace with the Ætolians.

After defeating Pyrrhus, the Romans had soon made themselves undisputed lords of all Italy south of the Po. They had then passed into Sicily, to dispute its empire with the Carthaginians, who had already mastered the greater part of it. (B. C. 263.) In twenty-four years of war ensuing between these two ambitious commonwealths, there perished on both sides in battle and by the waves, twelve hundred ships of the largest size then usual in war. Hence the waste of human life may be partly estimated, when it is considered that the war was carried on with no less activity by land than by sea. The contest was terminated with a treaty, whereby the Carthaginians agreed to give up Sicily, to free their Roman prisoners without ransom, and to pay a large sum of money.

The calamities of Carthage ended

not here. To the wild and profligate passion for universal dominion, in which that people equalled the Romans themselves, they added the fatal policy of carrying on their wars very principally by the hands of foreign mercenaries, and of levies raised by compulsion from the subject nations. This was apparently unavoidable when vast projects of conquest were undertaken by the people of a single commercial city: for they could not afford on ordinary occasions to withdraw any large proportion of their citizens from those channels of productive industry by which the state had attained its greatness. At the close of the war the exhausted treasury was unable to supply the full arrears of pay which were due to the soldiers. Disputes arose, which ended in the mercenaries taking up arms against their employers. The African subjects of Carthage, generally estranged from her by the harshness of her sway, were ready to band themselves with the rebellious soldiery; and a most bloody and savagely conducted war ensued, in which the state was saved, when upon the brink of destruction, by the energy and talents of its general Hamilcar. It was then that the Romans, taking advantage of the weakness to which their rivals were reduced, most ungenerously and faithlessly wrested from them the island of Sardinia, and obliged them to pay an additional tribute for having even meditated resistance.

As soon as the Carthaginians had settled their affairs at home, they sent Hamilcar to command in Spain; and the greater part of that country was brought under their rule by him and by Asdrubal and Hannibal, who followed him, the first being his son-in-law, the second his son. At nine years of age the latter, on accompanying his father into Spain, had been led by him to an altar, and made to swear inextinguishable hatred to Rome. He was a very young man when Asdrubal died; but he had already given so many proofs of spirit and ability, that he was chosen to succeed him. After completely establishing the authority of Carthage over the Spanish tribes that were unconnected with the Romans, he proceeded to attack the city of Saguntum, their ally. His act was maintained by the government of his country, and the Romans declared war. Hannibal took Saguntum, and then prepared to strike at the enemy's heart by invading

Italy. He made his way through Gaul to the Alps, partly by force and partly by negotiation; he succeeded in effecting the difficult and dangerous passage of those mountains; and descending from them, he was joined by the Gauls of northern Italy, the perpetual foes of Rome. He pursued the war with the greatest boldness, ability, and success; won several great battles without experiencing any important reverse; and reduced the hostile commonwealth to an apparently desperate condition, in which nothing but the most unyielding resolution could have preserved it from subjugation.

It was the news of Hannibal's successes in Italy that made Philip desirous of peace with the Ætoliens; for he believed himself already sure of the leading influence in Greece, and he thought that now, when Rome was brought low, he might extend his power over Italy and Illyria. Aratus, too, was not unwilling to make peace at a time when it was evident that the Achæians had the better in the war; and Philip was encouraged to commence a private negotiation, before the ambassadors of the cities could be assembled to treat regularly on behalf of the confederacy. The agent employed was Cleonicus of Naupactus, a public guest of the Achæians, who had been taken by their fleet in a descent on the Ætolian coast; but who, in consideration of the bond of hospitality, had been excepted at the sale of the prisoners, and was in the end set free unransomed. Meanwhile, that he might not seem too anxious for peace, he prepared for an inroad into Eleia. But Cleonicus, after going and returning twice or thrice, brought an earnest request on the part of the Ætoliens that the king would enter into treaty; and he then suspended his operations, and summoned forthwith a congress of his allies.

When the deputies were met together, Philip sent Aratus and Taurion with some others to the general assembly of the Ætoliens at Naupactus. They were accompanied on their return by Ætolian ambassadors, who proposed that he should come with his forces into their country, to the end that all might more speedily be settled by means of frequent personal conference. On this he set sail, and landed at a port in the territory of Naupactus, where he pitched his camp. The Ætolian multitude came unarmed, and assembled at

the distance of two furlongs; and the treaty was soon commenced on the footing that each party should retain what it then possessed. It was much promoted by the arguments of Agelaus the Naupactian, who forcibly urged the necessity of union, to enable the Greeks to defend their independence against Rome or Carthage, whichever should be victorious. Peace was soon concluded, and the delegates returned to their several homes. (B. C. 217.)

During the period of quiet which followed, the Peloponnesians employed themselves in repairing the damage which their property had suffered during the war, in carefully cultivating their fields, and in restoring the old religious and festive meetings, which continual warfare had drawn into disuse and almost into oblivion. The Ætoliens too rejoiced at first in the peace, and showed their satisfaction by choosing for their general Agelaus, who was thought to have contributed most to its conclusion. But their native turbulence and rapacity could not long remain inactive, and they soon began to blame him, because by making peace with all the Greeks, and not with some only, he had cut them off from present plunder and from the hope of future conquests. The general, however, was not to be diverted from maintaining the treaty, and they were obliged against their nature to continue at rest.

As soon as the peace was concluded, Philip returned to Macedonia, where Skerdilaidas had taken several cities. All these he soon recovered, and established besides them some other garrisons on the Illyrian frontier. He then dismissed his army for the winter, which he spent in preparing means for his passage into Italy; an enterprize which now engrossed his waking thoughts and nightly dreams, so completely had his fancy been fired by the promptings of Demetrius of Pharos, an Illyrian chief expelled by the Romans. He needed a fleet, but deemed it impossible to provide one sufficient to cope with that of Rome; and, therefore, resolving to make it such as should be fittest for speedy transportation of soldiers, and ready escape from superior strength, he caused a hundred light vessels to be built on the Illyrian construction. In the spring he rounded Peloponnesus, and came to Cephalonia and Leucas. Being informed that the Roman fleet was at Lilybæum, the farthest western headland of Sicily, he

sailed on confidently towards Apollonia, on the Illyrian coast. But when he was just arriving, a report was brought to him that a Roman squadron had been seen at Rhegium, and that it was bound for Apollonia to assist Skerdilaidas. He immediately put out to sea in alarm and disorder, and returned with the utmost haste to Cephalonia. It was afterwards found that the squadron seen at Rhegium was only a detachment of ten ships from the fleet at Lilybæum, which Philip, had he remained at Apollonia, might probably have taken; and that by his inconsiderate flight he had lost the fairest opportunity of effecting all his purposes in Illyria, while the efforts of the Romans were engrossed by their defence against Hannibal. About two years after this failure, he concluded an alliance, offensive and defensive, with the Carthaginian general, and with his commonwealth. In the following year he subdued most part of Illyria, the conquest of which he regarded as necessary to the attainment of his other designs; but the Romans, as we shall hereafter see, prevented him from joining Hannibal in Italy, by stirring up enemies to him in Greece.

Hitherto, Philip had shown himself, in most instances, an excellent prince, at least according to the notions of his age. He was indeed ambitious, and ready to barter the blood of his people for his personal aggrandizement; but this great wickedness was common to him with the most admired of ancient warriors, and carried with it neither guilt nor shame in the eyes of his contemporaries. He had displayed a capacity beyond his years for the management of men, and the direction of military operations; had maintained the character of a faithful ally, a just and liberal ruler, and a common benefactor to all connected with him; and these substantial merits being set off to the multitude by remarkable comeliness of person, and majesty of demeanour, he was loved and honoured throughout Greece, both by subjects and allies. Of this a striking instance was afforded by the Cretans, who, having at length, after many bloody struggles, effected an union among themselves, chose Philip voluntarily for the head of their confederacy. But the time was now come when he discarded the counsels of Aratus, and gave himself up to those of Demetrius, the Pharian. The first blow that was aimed at the independence of his confederates caused distrust between him and his better ad-

viser, and drew him closer to the worse. One step in iniquity led to another, till the infamy was irretrievable; and Philip sunk from a popular prince to a hated tyrant.

Dissension had arisen in the commonwealth of Messene between the oligarchical and democratical parties; and Philip, hoping by this means to bring the city into dependence on himself, approached it under pretence of effecting a reconciliation, but secretly tampered with the leaders of both to exasperate their quarrels. The result was a bloody struggle, in which the commonalty were victorious, and nearly two hundred of the nobles and their adherents were massacred. In the measures which led to this catastrophe the king was guided by the counsels of Demetrius; and it is the opinion of Polybius that had Aratus arrived in Messene before the slaughter, as he did on the following day, his influence over Philip was still sufficient to have hindered an act which blasted his character, and changed the complexion of all his after life.

The habit of being guided by Aratus still struggled with the vicious propensities which were flattered by the suggestions of Demetrius, and shame restrained him from approving in the presence of the former those proposals which he knew would fall under his censure. At a solemn sacrifice he was admitted into Ithome, the citadel of the Messenians: and taking the entrails of the victim into his hands, to examine what omens could be drawn from them, he asked those around him whether the auguries directed him to quit the citadel, or to seize it. Demetrius answered, "To quit it, indeed, if your views be those of a soothsayer; but if of an able monarch, to retain it, lest, having slighted one opportunity, you should afterwards wish for another; for thus," he said, "holding both the horns, you may keep the ox under control;" implying Peloponnesus by the ox, and by the horns the two commanding and almost impregnable fortresses, Ithome and Acrocorinthus. Philip liked the counsel, but could not refrain from asking Aratus whether he concurred in it. "I should," he replied, "could you seize the place without breach of faith to the Messenians; but if by garrisoning this with soldiers, you are likely to lose all the other citadels, which were garrisoned for you by Antigonus with the confidence of the allies, look whether it be not better to withdraw the

troops, and leave the fortress in the keeping of confidence." The king was checked for the moment, but did not permanently give up his projects of treacherous ambition; and finding that the Messenians could not be brought to resign their independence, he made war on them and ravaged their country. About the same time, to rid himself of a troublesome monitor, and a man from whom he probably apprehended effectual opposition to his newly adopted courses, he basely procured the death of Aratus, by means of a slow poison. The crime, however, could not be hid, and the murderer was generally detested. The burial place of Aratus was a subject of contention between Sicyon, his native city, and Ægium, where he died. The honour was adjudged to the former, and his remains were carried thither in solemn procession. He was venerated as a hero by the Achæians, and by the Sicyonians in particular as founder, father, and saviour of their city; and the biographer (Plutarch) observes with much apparent satisfaction, that there was issue of Aratus still existing in his time, after nearly three centuries had elapsed, while the race of his murderer became extinct in the following generation*.

CHAPTER XIII.

Of the Wars between the Romans and Philip; the rise of Roman influence in Greece; and the general transactions of that country, as far as the end of what was called by the Romans the first Macedonian war.

SECT. I.—THE time now came when war was to be rekindled throughout Greece, and a power to appear upon the stage, which was destined to overwhelm its national independence. In the eighth year of the peace (B. C. 210) Marcus Valerius Lævinus, the Roman officer appointed to act against Philip, having sounded the disposition of the Ætolians by private conferences with their leaders, attended a general meeting held to receive proposals of alliance with Rome. The lures held out were the depression of the Macedonians, and the compulsory re-union of Acarnania with the Ætolian confederacy, of which the Ætolians maintained that it had anciently been a member; though whenever, on former occasions, the name of

the Acarnanians has occurred in Grecian history, it has been as a separate and generally a hostile people. The alliance was concluded, and the Ætolians straightway went to war with Macedonia. Lævinus mastered the island of Zacynthus, and took Cœniadæ and Nasus, cities of the Acarnanians: all which he gave up to his new allies, according to previous agreement, by which the conquered cities and territories were to fall to the Ætolians, and the booty to the Romans. He then withdrew to Corcyra, fully trusting that he had provided employment for Philip, which would keep him out of Italy.

These tidings were brought to the Macedonian prince when he was wintering at Pella. He resolved to march into Greece with the beginning of spring, but first to strike a terror into the neighbouring barbarians, which he hoped would secure the quiet of Macedonia during his absence. He seems to have been thus occupied rather longer than he had expected; and in the mean time Scopas, who was general of the Ætolians, prepared to invade Acarnania with all his forces. The Acarnanians were far too weak in numbers for defence against so formidable an enemy; but they were strong in desperate resolution and deep abhorrence of Ætolian dominion. They sent into Epirus their women and children, and the men of more than sixty years of age; but all the males between the ages of fifteen and sixty remained behind, and bound themselves by a solemn oath that they would not return alive from the war, except as conquerors. If the battle were lost, and any escaped from it, they laid a heavy curse on every countryman who should receive the fugitives to his house or board, or even within his city; and they solemnly intreated their friends and allies that they would use the like severity. Finally, they craved of the Epirots that they would bury in one sepulchre all those who fell upon their side in the encounter, and would write above them—"Here are laid the Acarnanians who died fighting for their country against the violence and injustice of the Ætolians." Thus prepared in mind, they pitched their camp on the very border of their country. Pressing messages were sent to Philip, to call for aid without delay; and he interrupted a prosperous campaign in Thrace to hasten to their support. But the Ætolians had heard of the despe-

* This is not strictly true. Perseus, the son of Philip, had male issue, who died in obscurity at Rome.

rate extremities to which their adversaries had bound themselves to proceed ; the news had abated their ardour, and slackened their preparations ; and they were not ready to commence the intended inroad, before the approach of Philip secured the Acarnanians. They then retreated into the heart of their territory. The Macedonian, when he found that his allies were out of danger, did not pursue his march, but returned to Pella. These things took place before the close of winter. In the early spring Lævinus, with the Ætolians, took Anticyra on the coast of Locris ; after which Lævinus was called home to take the consulship, the chief magistracy of Rome, which was filled by two persons annually elected.

Besides the Romans, the Ætolians were assisted by Lacedæmon, ever friendly to the enemies of the Achæians, and by Attalus, king of Pergamus in Asia Minor, who was partly moved by jealousy of Philip, and partly by the compliment which the Ætolians had paid him by electing him nominally their chief magistrate. Hostilities were carried on by land and sea with various success, till Philip met the Ætolians and their allies near Lamia in Thessaly, defeated them in two pitched battles, and obliged them to keep themselves within the city. Ambassadors now came from the king of Egypt, from the Athenians, Rhodians, and Chians, to mediate a peace. A day was named for a meeting of the Achæians to consider the matter, and a truce was made for thirty days. Meanwhile Attalus arrived with his fleet at Ægina, and a Roman squadron at Naupactus. This put an end to all desire of peace in the minds of the Ætolians ; and their ministers, when brought before the assembly of the Achæians in presence of the ambassadors sent by the mediating states, demanded terms which they well knew must appear to their opponents, in the relative state of the two parties, extravagant and intolerable : so that the treaty was broken off in mutual displeasure.

It was shortly after this, that Philip, when occupied with the Nemean festival at Argos, was informed that the Romans had landed from their ships, and were wasting the fruitful plain between Sicyon and Corinth. He issued from Argos with his cavalry, bidding the infantry to follow, fell unexpectedly upon the plunderers, and chased them to their vessels.

The joy of the festival was heightened by this victory ; and Philip, to add to his popularity, laid aside his diadem and his purple, and mingled among the citizens, wearing a habit like the rest. But, at the very time when he was thus affecting democratical equality, he outraged, by the most tyrannical licentiousness, the people whose favour he was courting. Already infamous for covert adulteries, he now went on without shame or fear to gratify his appetites by open violence. His change of garb, he thought, would render his excesses less conspicuous, while the knowledge of his station would deter the injured from resistance or revenge. If any woman pleased his fancy, he sent and commanded her to come to him ; if she did not readily comply, he broke into the house with a party of his profligate boon companions ; and any determined resistance was sure to be visited on her parents, husband, or children, by some frivolous and ill-grounded accusation. By such conduct as this he quickly lost the small remains of his popularity among the Achæians ; but they were obliged for a while to bear with him, for they were hemmed in by enemies on every side, and without the aid of Macedonia it was hopeless to stand up against so powerful a league as that which was formed against them.

Philip led his army and that of the Achæians into the Eleian territory. He received a check near the river Larisus from the Ætolian, Eleian, and Roman forces ; but on the following day he made up for his loss by the capture of a fort, to which many of the country people had fled with their cattle. While he was dividing the spoil, he was suddenly recalled by tidings of trouble in Macedonia. In chasing the Roman foragers near Sicyon, his horse had carried him under a tree, which had broken off one of the horns with which his helmet was ornamented. An Ætolian had picked it up, and spread a report of his death. This encouraged the Dardanians to invade Macedonia, and some of Philip's officers were corrupted so as to join them. He repelled the invasion, and wintered in Macedonia. The Roman fleet and that of Attalus wintered at Ægina.

At the beginning of spring Philip descended into Thessaly, where he was met by pressing calls for aid from all his allies. The maritime states were in fear of the Romans and of Attalus,

the inland of the Ætolians; and the Achaïans in particular had both their frontiers to defend,—the one against the Ætolians, the other against Lacedæmon. Macedonia was threatened by the Illyrian Skerdilaidas, and by Pleuratus, a Thracian prince allied with the Ætolians, both of whom were ready to attack it, as soon as the king should engage himself in any distant expedition. Besides, to prevent him from moving southward, the Ætolians had fortified and strongly garrisoned the pass of Thermopylæ. However, he manfully confronted his difficulties, sent away the ambassadors with a promise that he would do his best for all, and prepared to give active succour wherever it should be needed. He sent reinforcements to every place that was in danger from the hostile fleet, and made a counter movement to every movement of the enemy. Between his head-quarters and the places most liable to attack he established lines of signal-stations, along which notice of any thing important was transmitted by means of torches variously arranged according to agreement. Polybius observes, how inadequate this mode of communication must be to the variety and complexity of the accidents occurring in politics and war, and suggests, as admitting of more universal application, a method of his own very similar in principle to the modern system of telegraphic signals.

At last the hostile forces landed at Oreus in Eubœa, and invested the place. An assault was made, and vigorously resisted; but while the struggle was warmest, the Macedonian governor treacherously opened a gate to the Romans, and the city was taken. The victorious squadron then proceeded to Chalcis. That city was protected by strong fortifications, by a numerous garrison, under leaders of approved fidelity, and by the waters of the Euripus, ever dangerous to shipping from their rapid and uncertain currents, and from the frequency of sudden squalls. The attempt was not pursued; the fleet proceeded to Opus, the chief town of the eastern Locrians; and the place being taken with little resistance, was given up to Attalus, the spoils of Oreus having fallen entirely to the lot of the Romans. Meanwhile Philip had routed the Ætolians at Thermopylæ, and was proceeding by forced marches towards Chalcis, when he learnt that it was out of danger, and the enemy was at Opus.

He hastened thither: the Romans were gone, and Attalus, little thinking of his danger, was employed in extorting money from the principal inhabitants. An accident only saved him from captivity, the approaching army being descried by some stragglers from his camp. He fled unarmed and in disorder to his ships, and had scarcely embarked when his enemy came upon the shore. He escaped, however, and rejoined the Romans at Oreus. He thence returned into Asia, hearing that his kingdom was invaded by Prusias, king of Bithynia, an ally of Philip. The Romans also returned to Ægina. Philip gained some further successes, and then went home to make war on the Dardaniens, leaving his allies much relieved by his timely aid, and by the departure of Attalus. He also undertook to build a hundred ships of war in the course of the ensuing winter; for he hoped, with the help of a squadron already sent to him by the Carthaginians, to dispute with his enemies the command of the sea.

Little is known of the revolutions which took place in Lacedæmon during the period of which we are treating. Before the war began Machanidas had made himself its ruler. He was destitute of hereditary title to the sceptre, like his predecessor Lycurgus; but in this they differed, that Lycurgus, though irregularly elevated, exercised his power under the control of the Ephori, and in some measure according to the ancient laws of Sparta; whereas Machanidas appears to have governed according to his arbitrary pleasure, and to have supported his dominion by a mercenary force. He therefore is always mentioned as the tyrant of Lacedæmon, while the other, in spite of his defective title, is described as king. But whatever may have been the character of his internal government, he seems to have been an active and troublesome enemy to the Achaïans, till his career was stopped by their great commander Philopœmen.

This distinguished person was a native of Megalopolis, and born of one of the noblest families in all Arcadia. In his youth he had courted the society and instructions of Ecdemus and Demophanes, disciples of the philosopher Arcesilas, and noted enemies to the tyrants who then governed most of the Peloponnesian states. They had delivered Megalopolis from its tyrant Aris-

todemus, and had taken part with Aratus in the liberation of Sicyon: and their political wisdom seems to have been as high in repute as their boldness and address, for they were afterwards sent for by the people of Cyrene in Africa, to preside over their commonwealth, and secure their liberty by proper regulations. Under their directions he had been remarkable for daring and endurance in the chase and in military exercises, for plainness of garb and temperance in diet. He passed with the greatest honour through every station in the army. He led a troop of horse at the battle of Sellasia: and there he won high praises from Antigonus; by venturing, without orders, to make a decisive charge at a critical moment, which contributed much to the defeat of Cleomenes. During the ensuing peace, to improve his military knowledge and talents, he engaged in the intestine wars of Crete as a captain of mercenaries: a hateful occupation, but one which was then, as it has been too commonly, regarded with such very undue respect and favour, that the blame of his adopting it is rather due to the perverted state of popular opinion than to individual depravity. War soon broke out afresh in Peloponnesus, and Philopœmen returning home was afterwards made general of the Achaian cavalry. This body, then undisciplined and disorderly through the corrupt neglect or indiscreet exertions of its officers, and spirit-quelled by frequent defeat and conscious inferiority, he converted into the best cavalry in Greece. He soon rose high in the confidence of his countrymen, as their ablest military leader: and he was enabled to reform the arms and discipline of the infantry, by lengthening their spears, improving their defensive armour, and teaching them to preserve a closer and firmer array. A strict observer of discipline himself, he was no less strict in enforcing it on others. Austere in habits, simple in manners, plain, short, and pithy in speech, and undeviating in his adherence to truth, his character, as well as his abilities, was such as to make him entirely trusted and respected. In less perilous times, his proud and hasty temper might have damped his popularity: but now his country, if once assured of a prop that could support her, was not inclined to quarrel with it because it might be a rugged one.

In the year after the departure of Attalus (B. C. 207) Philopœmen being general of the Achaïans, prepared for a decisive contest with Machanidas. He laid his views before the general assembly, where they were received with entire approbation; and then going round to all the cities, he stirred them up to zeal and activity, and amended whatever was amiss in their military arrangements. In about eight months from the first proposal of the enterprise, he gathered his forces at Mantinea, full of courage, cheerfulness, obedience, and confidence in their commander. Machanidas advanced against him from Tegea, where his army was then lying, and the battle took place between Tegea and Mantinea. The engagement was begun on each side by the mercenaries. Polybius observes that such troops would generally fight more resolutely in the service of a tyrant than in that of a free state: for the tyrant, depending chiefly on their support against domestic enemies as well as foreign, would retain them permanently, and make them sharers in his prosperity; whereas, in serving a commonwealth, they could look to nothing more than their pay during the war and their dismissal at the end of it. In the present case the mercenaries of Machanidas entirely routed those of the Achaïans, and pursued them towards Mantinea. Their chief joined with them in chasing the fugitives, instead of leading them against the standing enemy; while Philopœmen, not dismayed by the retreat of his mercenaries, prepared to recover all by the firmness of his Achaian phalanx. He shifted his position so as to outflank the enemy, and awaited the attack. The Lacedæmonians advanced as men already victorious; but their ranks were broken in crossing a ditch, which Philopœmen had placed in front of his lines, and the Achaïans then advancing in good order completed their confusion. They were entirely discomfited, and great numbers slain. Philopœmen then directed his attention to intercepting the return of Machanidas and the mercenaries. He set guards on the bridge and at all the passages over the ditch, and commanded that no quarter should be given; "For these," he said, "are they who maintain all the tyrannies in Sparta." He himself proceeded in pursuit of Machanidas, who was riding along the ditch, and seeking opportunity to cross it; the tyrant at length spurred

his horse to the leap, and was slain in the act by Philopœmen. The Achæians now advanced to Tegea, which submitted at their approach; and on the following day they encamped on the Eurotas, and ravaged Laconia unresisted, though before this battle they had long been unable to keep the enemy from their own gates.

Since the departure of Attalus, the Romans, being occupied with Hannibal, had neglected their confederates in Greece. Deserted by two of their most powerful allies, and deprived of the third by the victory of Philopœmen, which had reduced the Lacedæmonians to inaction, the Ætolians, who hitherto had frustrated all overtures of peace, were driven to sue for it on such terms as they could obtain. The treaty was just concluded, when a Roman general arrived on the coast, and vainly endeavoured to unsettle it. Philip offered him battle, which he declined; and a short interval of languid hostility was followed by a general pacification. (B. C. 208.)

SECT. II.—The ambition of Philip now turned towards the east. He secretly stirred up Crete against the Rhodians, of whose naval power he was jealous. The kingdom of Egypt having descended to an infant, he conspired with Antiochus king of Syria to divide it; though both had professed the warmest friendship towards Ptolemy Philopator, the father of the child. But the first occasion for war was furnished by Prusias, king of Bithynia, who had leagued himself with Philip through common enmity to Attalus, and had tightened the bond by taking his daughter to wife.

Prusias coveted Cios, a Grecian town of Asia, which was rich and conveniently situated for him; and though he had no claim on it, nor just matter of quarrel against it, Philip undertook to win it and give it him. While he lay before it, ambassadors came from Rhodes and other states, intreating him to forbear. He spoke them fairly, promised compliance, and kept them with him till he took the town, then sacked it in their presence, making slaves of all who escaped the sword. The iniquity of this deed raised general indignation, which was embittered in the breasts of the intercessors by the sense of mockery and insult. The Rhodians especially were stung to the quick, for even when the Macedonian envoy was boasting of his master's magnanimity, and saying that, though able to win the town at pleasure,

he had yet forbore in friendship to them, at that moment came a messenger with tidings of the capture and attending cruelties. The Ætolians felt it as a wrong to themselves, for the Cians were their allies, and had received from them a garrison and governor; and this was the third city which Philip had withdrawn from their confederacy since the peace. Even Prusias was not satisfied at receiving, instead of a flourishing city, a desolate spot and a heap of ruins.

The first to act against Philip was Attalus, and the Rhodians readily joined him. A great sea fight took place near Chios, between their fleets and that of Macedonia: both parties claimed the honour of the day, but the advantage rested with the allies. Philip nevertheless took some towns in Caria; but his enemies were too strong for him at sea, and he was obliged to retire to Macedonia.

Attalus had confidently reckoned on help from the Ætolians, who, besides the indignity with which they had been treated by his rival, owed himself some return for benefits rendered during the former war. But they were now enduring distresses, which had quelled their restless spirit. In a long and generally unprosperous struggle their resources had been exhausted, till most of the citizens were deep in debt. This was, from causes which have already been indicated (p. 12,) a prevailing evil in the states of Greece, and a frequent cause of civil contests and revolutions. In the present case the debtors called for a change in the laws to relieve them; and the business was committed to Scopas and Dorimachus, men prone to innovation, and deeply indebted themselves. The nature of the settlement they effected is not known, but Scopas seems to have founded on it some further schemes of ambition, in which being foiled, he went to seek his fortune at the court of Alexandria. He was there placed high in trust and favour, and liberally paid; but his covetous temper still craved for more, and his rapacity being found more troublesome to the administration than his services were valuable, they rid themselves of him by taking his life.

It is long since we have lost sight of Athens, which, though still the favourite seat of philosophy and art, had become insignificant in Grecian politics. The character of human an-

nals is too generally such, that the less a state is mentioned in them, the less matter it has for shame and for repentance. But the inaction of the Athenians did not proceed from love of peace, nor was it coupled with the peaceful virtues. The restless spirit of their ancestors was strong in them, though they had lost all their energy and courage, and though the acuteness of mind which still remained, was chiefly displayed in more ingenious methods of degradation. Their empire was gone, their commerce had decayed, and they had nothing but the narrow territory of Attica, to support a numerous people nursed in habits of idleness and luxury. Some relief was found in large donations of money, corn, and other necessary articles, which were made by many of Alexander's successors to purchase the good word of a people so renowned, and still so much distinguished for intelligence and accomplishment. All favours so conferred were repaid by unbounded adulation; and the leaders of the multitude, instead of exhorting them to seek for manlier methods of support, and to recruit their finances by economy, self-denial, and laborious exertion, only vied with each other in devising new compliments to the potentates who would barter gifts for praises, and thus obtaining means to gratify the crowd at no expense but that of character. The Ptolemies were of all the Macedonian dynasties the most liberal in their donations to Athens; and they were repaid by flatteries the most extravagant. Attalus had followed their example, and met with a like return. But circumstances arose which connected them with him more closely; and though little aid could be expected from their arms, to be able to join his cause with theirs was not without advantage.

It happened that two young men of Acarnania inadvertently entered the temple of Ceres at Eleusis, during the celebration of the Mysteries. This was a great profanation, since the rites were directed to be performed in the strictest secrecy; and though there was reason to believe the trespass unintended, the intruders were nevertheless put to death. Their countrymen at home were much offended, and sought to revenge themselves by war: they procured assistance from Macedonia, and entering Attica, wasted the lands and carried thence a large booty. The Athenians now were full of resentment, and looked to foreign

power for redress, which they wanted power and courage to take for themselves. In the former war they had been numbered among the allies of the Romans; and to Rome, accordingly, they applied for assistance against Philip. A like application had already been made by Attalus and by the Rhodians; and the senate, which now had triumphed over the Carthaginians, and completely broken and ruined their power, was easily persuaded to embark in a war for which it only wanted a pretext. Attalus came to Athens at the invitation of the people, and brought with him ambassadors from Rhodes. The citizens went out to meet him in solemn procession, with their wives and children, and the priests with the ensigns of their function. An assembly was held, in which high honours were voted to Attalus and the Rhodians: and a new ward (*phyle*) was added to those already existing, and was called after the name of the Pergamenian monarch. We have already seen this compliment paid to the first Antigonos and his son. Attalus thanked them, promised further services, and exhorted them to declare against the Macedonian, for which little intreaty was necessary. There were Roman ministers already present, and alliance was quickly concluded among all the parties.

Philip's courage did not fail when Rome was added to a league which he had already found well nigh too strong for him. While Attalus and the Rhodians were engaged in their negotiation with Athens, and in an unsuccessful attempt to rouse the Ætolians to arms, he took the field in Thrace, and recovered from his enemies many towns which had embraced their cause. After this he crossed into Asia and besieged Abydos. The townsmen held out beyond their strength, supported by the hope of aid from Attalus and from Rhodes; but the king only sent them three hundred soldiers, and the Rhodians a single ship. Thus unaccountably neglected by their powerful allies, the besieged were soon reduced to extremity; but not till the wall was breached and mines were carried to the inner rampart did they offer to surrender. They then proposed to capitulate for the safe dismissal of the soldiers of Attalus and the Rhodian galley with its crew, and leave for each inhabitant to depart with a single garment. Philip required them to surrender at

discretion. This answer filled the city with rage and desperation. A vote was passed that all the matrons should be shut up together in the temple of Diana, and the boys and girls, and infants with their nurses in a public place of exercise; that the gold and silver, and valuable furniture, should be heaped in the market-place or lodged in the ships; that priests and victims should be brought and altars erected; that a number of persons should be chosen, who, as soon as they had witnessed the destruction of their countrymen who fought in the breach, should slay the matrons and children, throw the collected riches into the sea, and set fire both to public and private buildings in as many places as they could; that these should bind themselves to perform their task by a solemn form of execration; and that the rest should swear that they would not quit the battle alive except as victors. The combatants well performed their part, for so obstinately did they fight, that when night was approaching, the assailants were glad to withdraw from the contest. But the principal persons, who had been intrusted with the more revolting business of the massacre, when they saw that there were few survivors from the battle, and those weary and sore wounded, resolved to surrender the city, and sent the priests to Philip for that purpose. The gold and silver was accordingly given up to him, when a sudden fury fell upon the people. They exclaimed that those were betrayed who had fallen in the battle; reproached themselves and their leaders with perjury, but especially the priests, who after devoting them to death, had themselves been the agents of surrender; they ran wildly about, and slaughtered the women, the children, and themselves. Philip viewed the whole with astonishment, but without pity. He forbade his soldiers to enter the town, observing coldly that he would grant the Abydenes three days to die in. It is said that not a man fell alive into his hands, unless through some unavoidable accident.

About the end of autumn, a Roman armament arrived on the coast of Epirus, under Publius Sulpicius Galba, one of the consuls. He quartered his land forces for the winter at Apollonia, and stationed his fleet at Coreyra. Twenty triremes were detached to the assistance of the Athenians, whose lands were continually wasted by inroads from Co-

rinth, and whose coast was infested by cruisers from Chalcis. The squadron was further strengthened by the arrival of three Rhodian galleys of a larger size; and three open vessels were added by the Athenians, being all which now remained of their once powerful navy. But the forces assembled in Athens were more than sufficient to keep the plunderers at rest both by land and sea; and fortune offered to the Roman commander an opportunity of more important action.

There came to him some Chalcidian exiles of the party hostile to Macedonia, who reported that the town was negligently guarded; for the inhabitants trusted to the Macedonian garrison, and gave themselves no trouble about it, and the soldiers of the garrison were equally careless, having no enemy near enough, as they thought, to be dangerous. On this he founded a plan of surprisal. He sailed to Sunium, but kept his ships concealed behind the promontory till night fall; then crossed the Euripus, and landed at Chalcis undiscovered a little before the dawn. A few of his soldiers scaled the wall in places where the sentinels were absent or sleeping; they admitted their companions, and the city was taken almost without resistance. It was pillaged and partly burnt: and though the cruelty of the soldiery had not here the palliation of passions heated by a wearisome blockade or a perilous assault, a general slaughter was made of the townsmen, whether they fought or fled. The large and well-stored arsenal and granaries were burnt; the booty was carried to the ships: and the prison, which Philip had selected as a place of safest keeping for his most important captives, was broken open by Rhodians. To keep the town would have been most desirable, since it commanded the Euripus, the readiest passage between Thessaly and southern Greece: but the Roman force was inadequate to the protection both of Chalcis and Athens, and it was therefore necessary to abandon the former.

As soon as Philip heard that Chalcis was taken, he hastened to the spot in the hope of revenge; but he found the town destroyed, and the destroyers gone. He then pressed his march towards Athens to retaliate in kind. Sleep and negligence, which had ruined Chalcis, were equally prevalent there: and the city was only saved from a similar surprisal by a runner, who outstripped the

royal army, and arrived about midnight with tidings of its approach. The walls were hastily manned, and all made ready for defence. Philip arrived before day-break, and, seeing that his first intention had been frustrated, he resolved to try an open assault. The Athenians, together with the auxiliaries furnished by Attalus, gave him battle. He bade his men take example by him, and charged at the head of a few horse. His boldness roused the spirit of his soldiers, and struck terror into his enemies; he broke their ranks, slew several men with his own hand, and chased them into the city. After this they kept their walls, and Philip ravaged the country unopposed. He bore an especial hatred towards the Athenians, and he showed it by defacing whatever was beautiful or sacred, not sparing even the tombs. On the following day, the city was secured by the arrival of the Romans. Philip unsuccessfully attempted Eleusis, and then retired to Corinth. From thence he went to Argos, where the Achaian congress was assembled.

Upon the death of Machanidas, the Lacedæmonians had fallen under the dominion of Nabis, a man surpassing all former tyrants in the monstrous and unheard of wickedness of his rule. From the first he deliberately grounded his power on a regular system of bloodshed and rapine; he slew or banished all in Sparta who were distinguished either for birth or fortune, and distributed their wives and their estates among his mercenaries, to whom he entirely trusted for his support. These were chiefly made up of robbers and murderers, and other criminals of the blackest description, who entered his service as their only refuge from the hatred of mankind. Such instruments were the fittest for the work in which he employed them: for not content, like common tyrants, with banishments and executions, he hunted out his enemies with assassins in the cities whither they fled for refuge. His extortions were boundless, and death with torture was the penalty of refusal. No source of gain was too mean for him or too iniquitous. He partook in the piracies of the Cretans, who were infamous for that practice; and he maintained a sort of alliance with the most noted thieves and assassins in Peloponnesus, on the condition that they should admit him to a share in their gains, while he should give them refuge and protection in Sparta, whenever they needed it.

As soon as he deemed his power secure in Lacedæmon, he sought to enlarge it by war, and he soon found an occasion of quarrelling with the Megalopolitans. A favourite horse of his had been stolen at the instigation of two Bœotian travellers. The culprits were pursued to Megalopolis, and arrested in the city. They protested against this violent proceeding, and demanded to be carried before the magistrates of the state; and no attention being paid to their remonstrances, they called for help, and were rescued by the people. No injury was done to the emissaries of Nabis, nor were they prevented from carrying with them either the horse or the groom who had stolen it: but the rescue of the Bœotians was provocation enough for the unscrupulous tyrant of Lacedæmon, who had long been seeking a pretext for hostility, and now commenced it by driving cattle from the lands of the Megalopolitans. Such was the beginning of war between Nabis and the Achaians, in the fourth year of the general peace. (B. C. 204.)

Messene first experienced the danger of the tyrant's hostility, being surprized by night, and all but the acropolis being taken. But on the following day, Philopoemen came with an army to its relief, and the Lacedæmonian troops were glad to capitulate for permission to withdraw. At this time, according to Plutarch, he was a private individual without authority, save that which arose from his renown and from his talents: and the army which accompanied him to Messene was composed of volunteers, who readily obeyed the call of Philopoemen when their proper general had refused to lead them out. The account of Pausanias on the other hand implies that he was general of the Achaians. In the following year, however, not being chosen to any of the principal commands, he accepted an invitation from the Gortynians, and again passed over to Crete. For this he was generally blamed by his countrymen, and probably with justice; for it is difficult to conceive a motive which could palliate his abandoning his country in the time of peril to draw a venal sword in the service of strangers. So deeply was his conduct resented by the Megalopolitans, that they would have passed a vote of banishment against him, had not the general congress interceded in his favour; but the intended severity rankled in his haughty and violent mind, and in-

duced him afterwards to take an unworthy revenge, by tampering with several dependant townships to make them disown the supremacy of Megalopolis.

During Philopœmen's absence, Nabis was generally successful against the less able commanders who were then opposed to him. He ravaged the country and threatened the cities; and the Achæians were deliberating on measures of resistance, when Philip appeared among them; and offered not only to protect their territory, but to carry the war altogether into that of Lacedæmon. The promise was received with vast applause; but when he proceeded to require that, while his forces were thus employed, the Achæians should garrison his towns of Chalcis, Oreus, and Corinth, the assembly perceived that the purpose of his liberality was to entangle them in his war with Rome. Cyliadas, the general, alleged a law which forbade the treating of other matters than those for which the meeting was called; not thinking it expedient to show that he had fathomed the drift of the proposal. A vote was passed to raise an army against Nabis; the assembly was dismissed, and Cyliadas, who was a friend to the king, and had been reputed a flatterer, stood henceforth clear from the charge of undistinguishing subserviency.

Philip then proceeded to Attica, and after vainly attempting Eleusis, Peiræus, and Athens itself, he proceeded in the same savage and brutal spirit of hostility which he had already shown, to destroy the monuments of art and pious magnificence which had before escaped. Every village had its temple and its separate religious observances; and the beauty of the edifices every where bore witness to the taste and skill of the people, favoured as they were by the plentiful supply of native marble. Philip broke the statues, demolished the temples, and even shattered the blocks of stone; and only quitted the hostile territory when nothing was left which he could destroy. He then retired into Bœotia on his way to his own dominions.

Meantime the Roman consul Sulpicius had gained some successes, little important in themselves, but such as encouraged the barbarous tribes which bordered on Macedonia to flock to him with offers of assistance. He now exerted himself to the utmost in preparation to wage the war more vigorously: he sent to Attalus, and to the Rhodians,

to require their active co-operation; and his efforts were met by corresponding diligence on the part of the Macedonian. But the point to which all eyes were turned with the greatest anxiety was the approaching general meeting of the Ætolians, to whom Sulpicius had sent ambassadors requiring them to unite their arms with those of Rome.

The assembly met, and the first to address it was the Macedonian ambassador. They ought, he said, to maintain the peace, for the same causes still existed which had determined them to make it. "He prayed them to consider how the Romans had made show, as if their war in Greece tended only to the defence of the Ætolians; and yet notwithstanding had been angry that the Ætolians, by making peace with Philip, had no longer need of such their patronage. What might it be that made them so busy in obtruding their protection upon those that needed it not? Surely, it was even the general hatred which these barbarians bore unto the Greeks." (Sir W. Raleigh.) He alleged many instances both in Sicily and Italy, where the specious pretence of Roman protection had prepared the way to a galling servitude; and he added, "That in like sort it would happen to the Ætolians: who, if they drew such masters into Greece, must not look hereafter to hold, as now, free parliaments of their own, wherein to consult about war and peace: the Romans would ease them of this care, and send them such a moderator as went every year from Rome to Syracuse. Wherefore he concluded that it was best for them, whilst yet they might, to continue in their league with Philip: with whom, if at any time, upon light occasion, they happened to fall out, they might as lightly be reconciled: and with whom they had made the peace which still continued; although the very same Romans were against it who sought to break it now."

The Romans felt the force of these objections: and before undertaking to answer them, they endeavoured to weaken their effect, by putting forward the Athenians. They justly complained of the cruel wrongs which they had suffered, and called in the name of all the Gods for vengeance on the destroyer of their sanctuaries. "Then spake the Romans: who excusing, as well as they could, their own oppression of all those, in whose defence they had heretofore taken arms, went roundly to the point in hand.

They said that they had of late made war in the Ætoliæ's behalf, and that the Ætoliæ had, without their consent, made peace: whereof since the Ætoliæ must excuse themselves, by alleging that the Romans being busied with Carthage, wanted leisure to give them aid convenient; so this excuse being now taken away, and the Romans only bent against their common enemy, it concerned the Ætoliæ to take part with them in their war and victory, unless they had rather perish with Philip."

"It might easily be perceived," says the eminent person whose words we have been using, "that they which were so vehement in offering their help ere it was desired, were themselves carried unto the war by more urgent motives than a simple desire to help their friends, with whom they had no great acquaintance." He might have added, that to suffer their allies to be driven by their neglect to a separate treaty as their only hope of safety; and then, as soon as it suited their convenience to renew the war, to expect that those allies would be ready to disown the engagements so contracted, betokened but slight regard to their own obligations, and still less to the pledged faith of others. Such may probably have been the thoughts of Damocritus, the Ætolian general, when he shifted them off with a dilatory answer: for haste, he said, was an enemy to good counsel, and they must further deliberate before they could conclude. To his countrymen he said that he had well provided both for safety and for profit: for now they might watch the turn of events, and take part with the stronger side. The only measure actually taken was the passing a decree, whereby the general was empowered at his discretion to summon assemblies for the purpose of deliberating on peace and war, questions ordinarily reserved by law for the great council of the Ætoliæ, when regularly called together at certain stated periods.

The consul quitted Apollonia, and advanced towards Macedonia through the country of the Dassaretians. Philip went to meet him, and some skirmishes took place to the advantage of the Romans. Meantime news was brought that Macedonia had been invaded by a vast host of Thracians and Dardanians: on which the king decamped by night, and hastened to repel this new attack. The Romans advanced without opposition, till they came to a narrow and

thickly wooded mountain passage, which Philip had fortified in the hope that it would stop them. But the strength of the Macedonian infantry lay in its impenetrable hedge of spears: and on a path which wound through rocks and thickets, the close array could not be kept, nor the cumbrous weapons wielded. The Romans fought in looser order, and principally depended on the sword; and this enabled them to force the passage with an ease which surprized them. Sulpicius then ravaged much of the neighbouring country, and fortified a post which lay conveniently for future inroads into Macedonia. Having effected thus much, he returned to Apollonia.

When Philip had arrived in Macedonia he found the Dardanians retiring, and sent a strong detachment of horse and light infantry to harass their retreat, which was done to their no small annoyance and loss. His own attention was demanded by a more pressing occasion. The successful opening of the campaign on the part of the Romans; the rising of so many among the barbarous border-tribes of Macedonia; the arrival of the Roman fleet on the coast of Eubœa, which was now announced to have taken place, and which threatened that kingdom with a maritime blockade, in addition to the dangers which surrounded it by land; all these things concurring had overcome the hesitation of the Ætoliæ, and induced them to engage in the war. They had taken many towns belonging to allies or subjects of Philip, and now were ravaging the fruitful plains of Thessaly as confidently and carelessly as if they had no enemy to fear. Their camp was pitched without choice of ground wherever chance would have it; little watch was kept; and some of the soldiers were wandering about half armed in quest of plunder, others passing day and night alike in alternate drunkenness and sleep, when Philip came upon them. A sally was made in such hurry and alarm, that some of the horsemen went out without their swords, and most without their breastplates. They were easily routed and chased to the camp by the cavalry of Philip, who prepared to assault the entrenchments as soon as his infantry came up. The troops arrived, and advanced to the assault; but the Ætoliæ fled through the opposite gate to the camp of the Athamanians, a neighbouring tribe who had accompanied them in the enterprise, but had encamped sepa-

rately, and preserved a greater show of discipline. The day was too far gone for a second assault, and Philip rested for the night near the trenches of the Athamanians, which he proposed to assault on the morrow. But a second terror seized the Ætolians; they fled from this encampment, as they had from their own, and returned to their homes with shame and loss.

These successes ended all present danger from Ætolian hostility, especially as the fighting men of the nation were soon afterwards much diminished in number, through the return of Scopas from Egypt to levy mercenaries for Ptolemy. He brought large sums of gold, with which he raised a force of 6000 infantry, and horsemen in proportion: and the Ætolian character is strongly displayed by the assertion of Livy, that but for the exertions of the general Damocritus so large a proportion of the youth would have engaged for hire in the service of the stranger, as to leave their homes almost without defence, against the powerful enemy so recently provoked.

Meantime the Roman fleet, having joined with that of Attalus, entirely commanded the Ægean sea. The hope of present succour now emboldened the Athenians to give free vent to their hatred of Philip, which fear had hitherto suppressed. Their method of attacking him was easy at least, if it was neither dignified nor effectual. They voted that his statues, and those of his ancestors, should be overthrown, and their names effaced from all honorary inscriptions: that the holidays and sacrifices should be abolished, and all the observances, in which religious rites had been prostituted for the purpose of flattering them: that the priests, whenever they prayed for the Athenian people, and their allies, should pray for curses on Philip and his posterity, on his kingdom, his forces by land and sea, on the whole race and name of the Macedonians. If any man should propose an additional insult, they declared that they would pass it, whatever it might be; and that the man might be justly slain who spoke against it. They concluded by saying that whatever had formerly been voted against the Peisistratidæ, the same should now hold good against Philip. Shortly afterwards Attalus and the Romans came to Peiræus, and honours were decreed to them no less extravagant than the expressions of hostility to Philip. From

Peiræus they sailed to the island of Andros, which they conquered; they ravaged many parts of Philip's dominions, and took the city of Oreus in Eubœa. They then returned about the autumnal equinox to Peiræus: whence Attalus went home, and the Romans to Corcyra.

In the ensuing year little important was done in the war: but when leisure was given by the coming of winter, Philip seeing that the contest would be long and perilous, applied himself to conciliate his subjects and allies, and guard against the danger of defection. He promised to the Achæians the restoration of some cities which he held from them: and he quieted the discontents of the Macedonians in the usual manner of tyrannical rulers, by sacrificing his instrument. Heracleides, his minister, was thrown into prison, and accused as the author of every unpopular measure: to the joy of the multitude, which gladly believed that the king, when freed from danger, would not renew his course of tyranny, or would not find subordinate agents as readily as before.

The next year was marked with greater exertions on the part of Rome. A large reinforcement was sent to the army in Epirus, under Titus Quinctius Flaminius, one of the new consuls. Ambassadors arriving from Attalus to say that he was ready to give aid, by land and sea, according to his ability, wherever and however the consuls should direct, but that he could not do this unless his kingdom were protected against Antiochus, king of Syria, who had invaded it, the senate gave an answer exemplifying the tone of superiority which that body already assumed towards all foreign princes. They declared that they would send an embassy to Antiochus, requiring him to forbear all hostility towards Attalus, while his ships and soldiers were employed in their service: for it was fit that kings allied with Rome should live at peace among themselves.

As soon as Flaminius arrived in his province, he moved his army towards Macedonia. A difficult defile in his line of march had been fortified by Philip, and was occupied by him with a powerful army. Rather than pursue the circuitous route which had been taken by Sulpicius, he resolved, if possible, to force it: but how to do this was not obvious; and forty days were spent in sight of the enemy before an attempt was made to dislodge him. This continued inaction encouraged the king to make

overtures of treaty, which proved abortive. On the following day his position was attacked, but unsuccessfully. Such was the state of things when a shepherd was brought to the consul, who engaged to lead a detachment of his troops by secret paths to the heights above the Macedonians. A picked body of men was accordingly sent forward in the night, and took the required position undiscovered. A general attack was made in the morning, and at the time when the contest was hottest in front, the detachment fell suddenly on the rear of the Macedonians, and they were entirely routed. Effectual pursuit was prevented, however, by the difficulties of the ground; and Philip easily re-assembled his scattered forces, and retreated with them into Thessaly.

In such parts of that province as were most exposed to immediate occupation by the conquerors, Philip removed the inhabitants, destroyed the towns, and wasted the country. After taking these cruel precautions, he retired into Macedonia. The unhappy Thessalians were at the same time invaded by the Ætolians and Athamanians, both of whom considered that they might plunder in security since the victory of their allies. The Romans lastly entered Thessaly, and took several towns by assault or capitulation; while the king, unable to face them in the field, sat down beyond the valley of Tempe, the principal pass which led to Macedonia; and thence he sent assistance to each place which was threatened with attack. At Atrax, on the Peneus, the consul met with an unexpected repulse. His engines had effected a breach in the wall, by which he thought he had ensured an easy capture of the place. But those within were brave, and they were now in a situation suitable to their weapons and mode of fighting. Their phalanx filled the breach; the standing walls protected their flanks, so that they could not be attacked except in front; and no movements were to be made which could disorder their array. The unarmed finger might as well attempt to thrust itself between the bristles of a hedge-hog, as the Romans to pierce the barrier of spears, or reach with their swords the men who bore them. At length Flamininus unwillingly gave up the attempt, and entered Phocis. He there took several towns, and was besieging Elateia, when his attention was drawn by the hope of a more important advantage.

Cycliadas had been banished by the Achæians, and their present general Aristæus was friendly to Rome. The Roman fleet, under Lucius Quinctius, the consul's brother, with the squadrons of Attalus and of the Rhodians, after taking Eretria and Carystus in Eubœa, had come to Cenchreæ, and was now preparing for the siege of Corinth. Before engaging in it, ambassadors were sent to the great council of the Achæians, empowered by the consul to offer Corinth as the price of their alliance. The minds of that people were variously affected. They suffered daily from the hostility of Lacedæmon, and that of Rome was still more formidable; they were bound by favours, both old and recent, to the royal house of Macedonia; but they held the present king in suspicion for his faithlessness and cruelty, which they rightly deemed would become more intolerable when victory should have rendered conciliation unnecessary. Thus divided in feeling they gave audience to the ambassadors. The Roman spoke first, then those of Attalus and of the Rhodians: the Macedonian envoys then replied, and were answered in their turn by a violent invective from the minister of Athens, after which the meeting was adjourned.

On the following day proclamation was made in the usual form, that any who wished might address the assembly. Dead silence followed, which was broken at last by the general Aristæus. He set forth the dangers of their present situation, the weakness of Macedonia, the strength of the Romans, the ever troublesome hostility of Nabis. He dwelt on Philip's various misdeeds, especially those committed in Peloponnesus; on the injuries of the Messenians, the murder of Aratus, the outrages perpetrated against virgins and matrons in friendly cities. These and other crimes, he contended, had cancelled every debt of alliance and gratitude. He bid them second those who were ready to free them from the tyranny of Philip; and rather earn a merit with the Romans while their services could be useful, than wait to be treated as time-serving neutrals, or perhaps as enemies.

Vehement murmurs followed of applause and disapprobation. Altercation was universal, and extended even to the ten presiding magistrates, five of whom declared that they would put the Roman alliance to the vote, while the rest main-

tained that the law forbade to treat of any thing contrary to the league with Macedonia. This day was spent in stormy dispute, and but one remained of three prescribed by law as the period of the meeting. Men's minds were now so heated, that parents scarce withheld their hands from the blood of their children. A Pellenian deputy, whose son was one of those presiding magistrates that refused to put the question, besought him long that he would not ruin his country by his obstinacy. Finding all was vain, he declared that he would slay him, and would hold him not as a son but as an enemy: and by this threat he prevailed on him to change his side, which turned the scale in favour of proposing the decree. It was proposed, and approved by the majority, among the representatives of every state, excepting those of Dyme and Megalopolis. The latter city had been restored by Antigonos after its capture by Cleomenes; the former had in the late war been taken by the Romans, and its inhabitants made slaves; but Philip had redeemed them wherever they were to be found, had set them free, and re-established them in their country. When their deputies saw the turn the current was taking, they quitted the assembly, all around approving their fidelity. Their example was followed by some, but not by all, of the Argian delegates. The question was put; alliance was voted with Attalus and with the Rhodians; with Rome it was deferred till the return of ambassadors, who were sent to procure the consent of the people, without which no treaty could stand good. Meantime ambassadors were sent to L. Quinctius, and the Achaian forces joined the army before Corinth. The besiegers had hoped that strife would arise between the citizens and the Macedonian garrison, but they found them united in mind, and equally zealous in defence,—a proof that in that city, at least, the Macedonian commander had respected the laws, and kept order among his soldiers. They effected a breach in the wall, but were driven back when they attempted to pass it, and were in the end obliged to give up the siege, on the arrival of the royal general Philocles, with a reinforcement to the garrison. Attalus retreated to Peiræus, the Romans to Corcyra. About the same time Elateia was taken by the consul.

Soon after Argos was recovered for Philip. That state was attached to the Macedonian kings, whose race was believed to be originally Argian; and most of the chief citizens were also bound to Philip by personal friendship. It was customary for the generals in opening the proceedings of the assembly, to invoke the names of Jupiter, Apollo, and Hercules; and to these, by one of those extravagant flatteries, now so disgracefully common in Greece, the name of Philip had by law been added. After the alliance with Rome, his name was omitted; at which a murmur first arose among the multitude, then a shout demanding its recital, and, at last, the name was proclaimed in the customary form with vast applause. Encouraged by this proof of the popular disposition, Philocles came by night, and occupied a hill above the city. At daybreak he advanced in order of battle towards the market-place. There was in the city an Achaian garrison of five hundred picked men from all the states. Philocles sent a messenger to Ænesidamus, the commander, to warn him to retire; for even without the Macedonians, he said, he would be overmatched by the townsmen who were on their side. Both the leader and his men were unmoved, till they saw a large body of Argians coming on armed; and then, to save so choice a body of the Achaian youth from certain destruction, Ænesidamus agreed with Philocles for their safe retreat. Himself remained in arms on the spot where he stood, with a few of his own dependents; and when the Macedonian sent to inquire what he wanted, he said that he would die in keeping the city intrusted to him. He was slain accordingly, with all those about him.

The Romans went into winter-quarters in Phocis and Locris, after which Philip requested a conference with their leader. A place was chosen on the shore of the Malian Gulf, whither the consul repaired, attended by the generals of the Achaians and Ætolians, and by some other principal persons among his allies. Philip came by sea, and refused to quit his galley. Flamininus asked what he feared:—"I fear nothing," he answered, "except the gods; but I cannot trust to all around you, and least of all to the Ætolians." The other replied that the danger was common: "But the reward of treachery," said Philip, "is unequal, for the Ætolians may better replace their general

than the Macedonians their king." They then proceeded to the business of the meeting, and Philip sought to know the terms of peace. The consul answered that he must withdraw all his garrisons from Greece, deliver up all prisoners and deserters, restore to the Romans what he had taken in Illyria since the former treaty, and to Ptolemy the cities he had occupied in Egypt. He then gave way to the ambassadors of Attalus, who craved reparation for losses and injuries in the war. The Rhodians called for the restitution of several places to themselves or their allies, the relinquishment of Sestos and Abydos, and of all towns and ports in Asia. The Achaians demanded Argos and Corinth. The Ætolians required the entire abandonment of Greece, and the restitution of all cities taken from themselves: and they strongly censured Philip's proceedings both in the war itself and in the transactions which led to it. The king replied to them, defending some of his worst measures on the plea of necessity, and others by alleging their own example; he exclaimed against their insolence in requiring him to relinquish all connexion with Greece; a demand which sounded harshly from the Romans, but which from them was quite intolerable. To Attalus and the Rhodians he answered that reparation was rather due from them, as aggressors, than from him: but yet he would yield to much of what they required. He closed with bitter complaints of Achaian ingratitude, but said that he would give up Argos, and would consult with the Roman general with respect to Corinth. The Achaians and Ætolians were preparing to reply, when night came on. The conference ended with a curious specimen of Roman pleasantries. In the course of the debate Philip had often assumed a tone of irony and sarcasm, to which he was very prone. At the end of it, he requested to have the proposals of the Romans in writing, that he might consult on them with his friends, since he was now alone: whereupon Flaminius, by way of shewing, says Polybius, that he, too, could be satirical, replied, "You may well say that you are alone, since you have killed all your best advisers."

On the following day Philip came not till evening, and then requested a private conference with the consul. This was declined at first, but afterwards granted with the consent of the allies,

Flaminius reported that the king would restore to the Ætolians Larissa and Pharsalus, but not the Phthian Thebes: to the Achaians both Argos and Corinth: to the Rhodians some, but not the whole, of his conquests in Asia: to Attalus, his captured ships and sailors: to the Romans, the places taken in Illyria, with the prisoners and deserters. But all exclaimed against accepting any partial concession while the Macedonian held one garrison in Greece; the discussion was again adjourned; and on the morrow it was agreed, at Philip's suggestion, that he should send an embassy to Rome, and either persuade the senate to grant his terms, or submit to such as they should dictate.

In consenting to this, the consul did not expect that peace would follow; but he was glad to ascertain the wishes of the senate; and it cost him little to suspend his operations at a season which would necessarily have slackened them. He granted a truce for two months, on the condition that the Macedonian garrisons in Phocis and Locris should straightway be withdrawn. Ambassadors were sent to Rome both from Philip and from his enemies. The latter were first heard by the senate. They brought very heavy charges against the Macedonians, but their most prevailing argument was drawn from the commanding position of the three strong holds, Demetrias in Thessaly, Chalcis, and Corinth, which Philip was wont to call the fetters of Greece. The royal ambassadors being then admitted, were beginning to speak at large, when they were cut short with the question, whether their master would relinquish those three cities, and sent away, upon their answering that they had no specific instructions on that head. The command of Flaminius was continued to him, after the expiration of the year, with the title of proconsul, which signifies an officer with consular authority.

The negotiation having failed, Philip sought to concentrate his forces for a decisive struggle, and for that end to diminish the number of his distant garrisons. Of these, Argos was among the remotest, and the most exposed to attack: and the method he took to escape at once from the charge of keeping and the danger of losing it, is worth the consideration of all who put their trust in princes. The Argians had struggled for ages against Lacedæmon, and losses.

and sufferings had only embittered their abhorrence of her dominion, even when it would have been exercised by hands less odious than those of Nabis. Yet when for Philip's sake they had revolted from the Achæians, and he found it no longer convenient to keep them, lest they should return to the allies whom they had abandoned for him, he betrayed them to their worst enemy, the tyrant of Lacedæmon. Nabis refused at first to receive the city, unless invited by a decree of the people. Such a decree was proposed, and rejected with expressions of scorn and detestation; all which the tyrant treasured up as pretexts for rapine. He then signified to Philocles, the chief agent in this wickedness, that he was ready to take possession. His troops were introduced by night; all commanding posts were occupied, and the gates were shut. A few of the leading citizens escaped, whose estates were forthwith given up to pillage. Those who remained were stripped of all their gold and silver, and heavy contributions levied from them besides; and if any were suspected of concealing the amount of his property, he was cruelly tortured. An assembly was then called, and Nabis proposed a general abolition of debts and a distribution of lands; which were to serve as bribes to the poor, to prevent them from opposing the spoliation of the rich.

In resigning Argos, Philip had stipulated that if he were victorious, it should be restored to him. If he trusted to this assurance, he little considered the character of the man with whom he had to deal. The first thought of Nabis was to join the Romans, and thus preclude all demands of restitution. This was scandalous perfidy, but yet not worse than Philip's conduct towards the Argians; and it is a strong instance of the natural proneness of mankind to rely entirely on the assurances of their fellows, that he should have trusted to the promise of a man so infamous, even at the very moment when himself was trampling under foot all bonds of faith to a people who had hazarded their all for his sake. The Roman general gladly listened to the overtures of the tyrant, and offered him friendship on the condition that he should make peace with the Achæians, and should send an auxiliary force to act against Philip. He promised to send the troops; and, instead of a permanent peace, he made a

truce with the Achæians during the Macedonian war; and on these terms the treaty was concluded.

A dispute arose about Argos, which Attalus said that Nabis had gained by treachery, and now held by violence, while the tyrant asserted that the citizens had called him in for their defence. The king required that an assembly should be summoned, to ascertain whether this were true; the tyrant did not refuse; but, to the further demand, that the Lacedæmonian soldiers should be withdrawn, so that the assembly might be unmixed with foreigners, and free to declare, without fear, the real wishes of the citizens, he denied his consent, and there the matter rested. On his return to Lacedæmon, he sent his wife, Apega, to Argos, to plunder the women, as he had plundered the men. This she did with cruelty surpassing even that of her husband. She sent for them sometimes singly, sometimes in families, and inflicted on them every kind of indignity and torture; and thus she extorted from them all their golden ornaments, and even the most costly of their garments.

These transactions took place in the winter of the year B.C. 198. In the following year, the Roman chief undertook to secure the adherence of the Bœotians, whose affections were much divided. This he effected by a trick, in which, though no express covenant may have been palpably broken, he certainly acted in a spirit very opposite to good faith. He pitched his camp five miles from Thebes: ambassadors came from every side: he set out for the city with them and with Attalus, attended only by a handful of soldiers; but two thousand more had orders to follow at the distance of a mile. The general of the Bœotians met him half way; but few armed men being seen about him, and those who followed being hid by the inequalities of the ground, no foul play was apprehended; and as he neared the gates, the citizens crowded out to do him honour. Under pretence of receiving and returning their welcomes, he loitered to let his followers come up, still carefully keeping all the townsmen before him, so that his own company might screen from their view the armed body in the rear. The fraud was not discovered till he came to his lodging. It was then apparent that there could be no freedom of debate for the assembly of the Bœotians, which was appointed for the morrow; but complaint was sup-

pressed by the conviction that it was vain and might be dangerous.

The first who spoke in the assembly was Attalus. He began with his own merits towards Greece and towards the Bœotians; but he was too old and too infirm for the exertion of speaking, and a stroke of palsy cut him short. When he had been carried out, Aristænus addressed to the Bœotians the same arguments by which he had already prevailed with the Achæans. Then followed Quintius himself, who praised not so much the power of his countrymen as their good faith. His words were probably unquestioned; for the recent fact, which proved them false, had made it perilous to contradict them. The Roman alliance was voted with the unanimity of fear; and the proconsul quitted the scene of his ill-gotten success, to turn his whole attention towards the war with Philip.

That monarch also was not slack in preparation: but warfare unceasing for many generations had wasted the flower of the Macedonian youth, and the army which was to fight for the national independence was filled up with boys and old men. Wars so constant and extensive as to lead to this result can seldom be without great blame to the people or its rulers; and the weakness thence arising may perhaps be considered at once as a natural consequence of ambitious turbulence, and as a wise provision to limit and punish it. The late war had ended with a safe and honourable peace. If Philip then, instead of pursuing unjust aggrandisement in Asia, had quietly employed himself in recruiting the exhausted resources of his country, he might not have escaped attack from Roman ambition; but his cause would have been clearer, his enemies fewer, his friends more numerous; the brave men who fell in unprofitable battles against Attalus and the Rhodians would have been standing armed to repel the invader; and the boys who feebly filled their places, and perished immaturely in unequal contest, would have grown up under their protection to the strength of manhood. Even thus the Macedonians would perhaps have been overcome by the superior military system of their adversaries; but they would at least have maintained a long, hard, doubtful struggle, with the approving witness of conscience, and the wishes of all good men. By doing otherwise, Philip converted

allies into neutrals, and neutrals into enemies; gave his foes a pretext for attacking him; made the friends of Grecian freedom doubt which party to support; and through the same acts by which he forfeited all aid from without, he broke the strength of his own kingdom, and lavished its best blood before the time of need.

The crisis soon came. The Roman forces entered Thessaly, where those of Macedonia were already stationed to defend the province. After various movements, which it is needless to detail, the two armies came together near Phæræ. In number, they were nearly equal: but the Romans, with their allies, were superior in horse, and they had elephants, which Philip had not. Several skirmishes took place between the cavalry and light troops, whom each sent out to discover the position and movements of the enemy. At length, the armies confronted each other, divided only by some hills called Cynoscephalæ (Dog's heads). So thick a fog then prevailed, that neither knew of the other's approach till the outposts were engaged. The skirmish grew hotter, reinforcements arriving to either party when it seemed to be the weaker; and the contest ended in a general engagement, to the great disadvantage of Philip, who, not expecting it, had sent out many of his troops on foraging parties.

In the beginning of the battle, the Macedonians seemed to be superior. Their light troops had driven those of the Romans from the top of the intervening hill, and the heavy-armed of the right wing quickly following, had formed undisturbedly on the ridge, and were now descending in perfect order, and with a weight and force too great to be withstood by the looser array and shorter weapons of their adversaries. Whatever opposed them was overborne, and either destroyed or forced to retreat; till the proconsul, seeing that here defeat seemed unavoidable, recovered the fortune of the day by a vigorous attack on the left of the Macedonians. Unexpectedly tempted to make a general attack, Philip had been unable to bring his forces simultaneously into action; the greater part were still on the way to join their victorious companions, and the Romans found them in order of march, and not of battle. To make their confusion more complete, there was no commanding officer on the spot, and the ground was such as rendered it difficult to form in

phalanx. To be attacked at such a moment was certain discomfiture, and they broke and fled at the approach of the elephants, without awaiting the onset of the infantry which followed them. The Romans generally were hot in pursuit: but one officer saw that the time was come for more important service, and quitting the beaten enemy, he hastened down the hill with a few hundred soldiers to fall on the rear of the conquering right wing. Unable suddenly to change their front, and unfitly armed for a mingled scuffle, the Macedonians had no defence against this unlooked-for attack. They were helplessly slaughtered till they fled, and then they were pursued not only by those in the rear, but by the men whom they had just been driving before them. The rout was complete and ruinous, eight thousand Macedonians being slain and five thousand taken, while the Romans only lost about seven hundred men.

The king retired from the field to Tempe. He stopped there for one day to collect the stragglers of his army, and sent a messenger to Larissa to destroy his memoranda which were lying there, lest falling into the hands of the Romans they should injure himself or endanger his friends. He then proceeded on his way into Macedonia. Flaminius arrived in Larissa, where he was met by a Macedonian herald, sent avowedly to ask a truce for the burial of the dead, but commissioned also to obtain permission that ambassadors should be sent to treat of peace. The proposal was favourably received; a truce for fifteen days was granted, and ambassadors came from Philip, one of whom was the Achaian exile, Cyliadas.

The conduct of the Roman general in this matter was not without reason displeasing to the Ætolians. Before the victory every thing had been done in concert with the allies; but in the answer given to Philip's messenger, and in most things that had happened since the battle, the proconsul had acted on his own opinion, advising only with those about his person, and had studiously slighted the Ætolians in particular. The causes assigned by the historians are these:—he was offended with them for plundering the Macedonian camp while the Romans were engaged in the pursuit, and thus depriving the latter of their due share in the booty; he was determined that he would not, after expelling Philip, leave them lords of Greece

in his place; and he resented their boasts of superior valour, and the large part which they claimed in the credit of the victory. These pleas were pretexts rather than motives, and even as pretexts they were insufficient. If the Ætolians had defrauded his soldiers, he might complain, might threaten, might enforce redress; but he had not a right to acquiesce in the particular injury, and then repay himself by assuming unlimited authority in the general conduct of the war, to the injury not only of the offenders but of the other allies. The vaunts of the Ætolians were a matter too insignificant for serious complaint. They may have overstepped the bounds both of truth and modesty; but their services had really been eminent, especially those of the cavalry; and there is reason to think that the real ground of offence was not the falsehood of their pretensions, but their daring, whether justly or unjustly, to place their military merit in comparison with that of the Romans. These things are trifling; but the whole proceeding may be explained from the second pretext, when compared with the uniform course of Roman policy. The Ætolians were not to be lords of Greece; they had been courted as long as Macedonia was formidable, but now that they had helped to win the battle, themselves would probably be the next attacked. The other allies, who dreaded and hated them, would gladly contribute to their downfall, and in so doing would accuse themselves to follow the lead of the Romans. These professing to defend the liberty of Greece, and to protect the weak against the strong, would successively bring low all the greater states, and habituate the rest to unlimited obedience. When the nation was irrecoverably divided and weakened, they would begin to exercise a more arbitrary power; and would either break its spirit gradually to the yoke, or would goad it to insurrection, and then punish its imputed ill faith and ingratitude by reducing it to a subject province.

It is not here meant that all these views existed fully developed in the mind of Flaminius; but his conduct steadily tended towards them, and the prospect opened as he proceeded; while the same system of policy was so uniformly pursued by his successors, and by Roman generals elsewhere, as to prove that its principles were common to all, and only wanted occasion and circumstance to embody them. A day was appointed

for the conference with Philip, and the deputies of the confederate states being assembled at Tempe, the proconsul called on each for his opinion upon the terms to be granted. The Ætolians declared that they could be satisfied with nothing short of Philip's expulsion from Macedonia. This demand, unreasonable in itself, was very unwelcome to the Roman, who foresaw that he should want that kingdom as a balance to the Ætolians. Besides, the custom of his commonwealth was not to push its successes to the utmost; but rather, by granting peace on easy terms, at once to make sure what had been won, and to affect the praise of generosity, secure that either by the progressive extension of protection and control, or by war renewed at greater disadvantage, the weaker state must ultimately fall under the dominion of the stronger. He resisted the wishes of the Ætolians, as well on the ground of becoming liberality, as on that of the utility of Macedonia as a barrier against the Thracians and Gauls. His conduct here was right, and his reasons sound; but he betrayed the lurking spirit of ambition and encroachment by the haughty and angry manner in which he interrupted the Ætolian Phœneas, who still asserted that Greece could only be secured by the overthrow of Philip; as if it were an offence against Rome for any of her allies to persist in an opinion which her officer had condemned.

The king arrived on the following day, and came on the third into the meeting. He said that he consented to all which the Romans and their allies had previously required, and would willingly refer all other questions to the decision of the senate. The Ætolians demanded several cities of Thessaly which they had lost; and he answered that they might freely take them. But here Flaminius interfered: the Phthian Thebes, he said, should be theirs, since it had refused to yield, when summoned by the Romans; but not the other towns, which had surrendered. The Ætolians were highly indignant, the other allies proportionably gratified. The treaty, however, proceeded: a truce was made for four months, during which the conditions of a lasting peace were to be settled by the senate; and it was agreed that Philip should pay forthwith two hundred talents into the hands of the proconsul, and should give as hostages his son De-

metrius, and others of his friends, on condition that both the money and the hostages should be restored if the negotiation were not successful.

While the main issue of the war was determined in Thessaly, transactions not without importance took place elsewhere. The Achæians, after suffering grievously from the powerful garrison of Corinth, judiciously profited by their over-confidence to give them a decisive defeat. A deeper interest belongs to the dangers which now threatened the Acarnanians, a nation too weak to be often mentioned in history, but whose name, when it occurs, is worth a welcome; for it seldom fails to relieve the gloomy cast of the general narrative with some instance of courageous honesty, justice, or moderation. Before the battle of Cynoscephalæ, when they alone, of all the Greeks, clung firmly to Macedonia, the Roman admiral L. Quinctius undertook to gain them, and persuaded many of their leaders to concur with him. A national congress was held at Leucas, and a decree of alliance with Rome was proposed. Many cities had no representatives at the meeting, and those who came were much divided in opinion; but the chiefs and magistrates who favoured the change prevailed on a majority to approve it. This decree, when known, excited general indignation, as a breach of faith towards Macedonia. It was quickly reversed; Archelaus and Bianor, the proposers, were condemned as traitors; and the general Zeuxidas was deprived of his office, for putting such a question to the vote. The men condemned were advised to fly to the Romans at Coreyra; but, strong in conscious purity of motive, they resolved to trust their fate to their fellow-citizens. They entered the assembled congress. A wondering murmur first arose, which was hushed by respect for their former character, and pity for their fortune. They were patiently heard, while, after beginning in a supplicating strain, they went on to defend their proceeding, and finally ventured to complain that they had been harshly judged, and cruelly sentenced. The experiment was bold, and without a parallel in Greece; but the issue showed that they had rightly estimated their countrymen. Every vote against them was repealed; but the nation adhered, notwithstanding, to its old engagements, a sufficient proof that they were acquitted through the

candour of those who disagreed with them, and not through the renewed superiority of their partisans.

These tidings being brought to L. Quinctius, he immediately prepared for the siege of Leucas. The place was open to attack by land and sea, and the walls were quickly sapped or shaken in many places. But the want of natural advantages for defence was supplied by the courage and industry of the besieged, who were daily and nightly employed in repairing the tottering ramparts, filling up the breaches, and making good with their weapons every passage which was opened for assault. The defence was maintained, till the citadel was betrayed to the Romans by some Italian exiles living in the town. The Leucadians formed in battle order in the marketplace, and long withstood the soldiers who poured down upon them from the hill; but in the meantime the walls were scaled in many places, and the Roman general entering the city with the main body of his army, they were quickly surrounded, and either slain or obliged to surrender. Soon after this the news arrived of the decisive battle in Thessaly, and all the states of Acarnania now submitted to the conquerors. About the same time the Rhodians defeated a Macedonian army, and recovered Peræa, a tract on the opposite coast of Asia, which had formerly been theirs, and the occupation of which by Philip had been a principal subject of their quarrel with him.

The weak condition of Macedonia now encouraged the Dardanians to invade and ravage it: but Philip, though every where unfortunate, was not so broken in spirit as patiently to endure this last insult. He hastily collected an army, and falling on them unawares, when scattered for plunder, cut to pieces a large portion of them almost without resistance. The rest fled to their own country, and the king led back his soldiers, cheered by this unwonted gleam of success.

Flaminius had listened the more willingly to proposals of peace, because he feared that a new ally might come to Philip. In the preceding summer, Antiochus, king of Syria, had won the province of Cœlesyria from Ptolemy, and now he had gathered forces by land and sea, at once to wrest from the same potentate the cities he possessed in Cilicia and Caria, and to aid the

Macedonian monarch in his contest with the Romans. The Rhodians hearing of his levy, sent an embassy to warn him that they would forcibly oppose his fleet, if it passed the headland of Nephelis, in Cilicia, not, they said, from any hostile feeling towards him, but to prevent him from impeding the liberation of Greece. The king replied that he would send ambassadors to renew his ancient friendship with the Rhodians, and that they need not fear lest his coming should injure themselves or their allies, for his good disposition towards Rome had been proved by a recent embassy to the senate, which had been most favourably received. His envoys were at Rhodes when the tidings of the battle at Cynoscephalæ arrived there. The Rhodians did not proceed against him, but they took measures to secure the cities allied with Egypt, and many states, among which were Samos and Halicarnassus, were indebted to them for safety and freedom.

Before the return of the Macedonian and other ambassadors from Rome, the Bœotians asked and obtained from the proconsul the restoration of such of their citizens as had been taken fighting for Philip. As soon as they returned, Brachyllas, the chief of them, was elected Bœotarch; and the friends of Philip were generally honoured and advanced to leading situations, as before the commonwealth had been forced into alliance with Rome. For this perhaps the Bœotians may be excused, though it were to be wished that their independence could have been otherwise asserted, than by means of a favour obtained for the purpose of crossing the intentions of the grantor. Their next act was one of unqualified meanness; for in order to take from the Roman general the credit of the obligation, they sent an embassy of thanks to Philip, as if it had been conferred through his intercession.

These proceedings gave alarm to the partisans of Rome; for they saw that their opponents were superior even now, and would carry all before them as soon as the controlling army was withdrawn. To avoid the humiliating and dangerous condition of a depressed faction in a Grecian state, they were ready to take the most violent measures. They sent a deputation to Flaminius, which bitterly inveighed against the ingratitude of the multitude, and finished by saying

that there could be no security for the friends of Rome after the departure of the army, unless Brachyllas were removed out of the way, and the people intimidated by his fate. The proconsul replied that he would not be concerned in such a matter; but having quieted his conscience by the pitiful subterfuge of refusing direct participation, he bid them consult with Alexamenes, the Ætolian general. The latter made no scruple of selecting fit ruffians for the purpose, being six in number, three of his countrymen and three Italians. As Brachyllas was returning drunk from a feast, they fell on him and slew him, and escaped in the tumult.

At break of day an assembly was called to inquire into this dark transaction. The first who were openly accused of the murder were some men of abandoned character, who had been with Brachyllas at the moment; but far stronger suspicions were secretly attached to Zeuxippus and Peisistratus, the heads of the Roman party, and the real authors of the deed. Zeuxippus endeavoured to outface his accusers, by arguing against the supposition that such a violence had been committed by persons so effeminate as the accused; and he succeeded in persuading many of his innocence, for they found it hard to believe that, if conscious of guilt, he would have put himself heedlessly forward in the discussion, or laboured to remove the imputation from others. Meantime the companions of Brachyllas had been racked, and had named Zeuxippus and Peisistratus as the contrivers of the murder. They were privy to nothing, and had only spoken at random, in compliance with what they knew to be the popular opinion; but nevertheless the heart of Zeuxippus failed him, and he fled. Peisistratus remained at Thebes, not fearing discovery, except from an accomplice; but as Zeuxippus had a confidential servant, who had managed the whole transaction, he sent a letter advising that he should be removed. The success of this precaution was such as it deserved. The letter fell into the hands of the servant, who straightway fled to Thebes; and on his evidence Peisistratus was convicted and executed.

This deed most justly exasperated the Boeotians against the Romans; but wanting strength for open war, they pursued their revenge by more dishonourable means. If any soldiers quitted

the camp, they were cut off by lurking assassins, or decoyed into deserted halting places, and there murdered. Five hundred men were thus destroyed; and when the proconsul demanded reparation of the states, they denied that these outrages were authorized, but gave no further satisfaction. He then commenced hostilities against them, and quickly made them sue for peace. At first, he refused to receive their ambassadors; but the Achæians and Athenians interceded for them, and at their instance peace was granted, on condition that the Boeotians should deliver up the guilty persons, and should pay a fine of thirty talents.

Ten Roman commissioners now arrived to settle the affairs of Greece, and brought with them the decree of the senate, granting peace to Philip. It provided that all the Greeks not subject to Philip both in Asia and in Europe should be independent; that Philip should deliver to the Romans the Greek cities subject to him, or in which he had garrisons, excepting several in Thrace and Asia which were named, and were to be left forthwith to themselves; that Flamininus should write to Prusias for the liberation of the Cians; that Philip should restore all Roman prisoners and deserters, surrender all his decked vessels of war, excepting five of such as were commonly used, and one huge galley with sixteen banks of oars, which was only kept for parade, and pay a thousand talents, half forthwith, and the rest within ten years.

This decree was generally well received; the Ætolians alone expressed dissatisfaction. They said that there were two articles about the cities held by Philip; that those named were to be independent, which were mostly towns of Asia, but the rest would remain in the hands of the Romans. Now these were the strong cities of European Greece, Oreus, Eretria, Chalcis, Demetrias, Corinth. It was evident then that the Romans were succeeding Philip in his hold upon the fetters of Greece, and that the nation had but changed its masters. These complaints were not ill founded; for the senate had intentionally left to the discretion of the commissioners the disposal of Chalcis, Demetrias, and Corinth; and when Flamininus advised them to make those cities independent, and thus rebut the charges of the Ætolians, they only complied with respect to Corinth, which they re-

stored to the Achaian league. Even this, to which they were bound by treaty with the Achaians, they executed imperfectly, retaining a garrison in the Acrocorinthus. When these things are considered, the reader will perhaps be of opinion that the mistrust of the Ætolians, however condemned by the Roman writers, was not less reasonable than the boundless confidence and gratitude of the other allies.

The Isthmian festival soon came, (B.C. 196) at which it was expected that the intentions of the Romans would be made known; and the scene which ensued is one which cannot be viewed without gratification, even by those who have learnt how large a proportion of history is occupied by fair professions unfulfilled, and hopes unworthily disappointed. The spectators were assembled, and busy in conjecture as to the conduct likely to be followed by the new arbiters of Greece, when the trumpet sounded, and proclamation was made to this effect:—"The Roman senate and T. Quinctius the proconsul, having overcome King Philip and the Macedonians, leave free, ungarrisoned, unburdened with tribute, the Corinthians, Phocians, Thessalians, and others," specifying all the Greeks who had been subject to Philip. The voice of the crier was drowned in acclamations, so that many failed to hear the full purport of the proclamation; and others thought that what they heard must be spoken in a dream, so far did it exceed their expectation. The crier was called back, and the same words being repeated were followed by loud and reiterated shouts of applause: after which the various shows and trials of skill proceeded unregarded, the minds of the spectators being too full to heed them. When all these were finished, a general rush was made towards the Roman commander; and it is said that, had he not been a man in the full prime and vigour of youth, his life might have been endangered by the multitude of those who thronged to see him, to address him as a saviour, to take him by the hand, or to throw garlands upon him. "It was glorious that a state should exist in the world, which had will to contend for Grecian freedom, and power and fortune to achieve it." Such a praise may have been partly due to the present conduct of the Romans, perhaps to most of the administration of Flaminius. But woe to the people

whose liberty depends on the continued forbearance of an over mighty protector!

CHAPTER XIV.

Of the war of Antiochus and the Ætolians against the Romans and their Allies: and of the affairs of Greece until the Roman conquest of Macedonia.

SECT. I.—ANTIOCHUS, in the course of an expedition mainly directed to bring under his dominion all the coasts of Asia Minor, had come to the Hellespont, and received the submission of many towns on the European, as well as on the Asiatic side. Arriving at the ruins of Lysimacheia in the Chersonese, which had been destroyed a few years since by the Thracians, he suspended the pursuit of fame and aggrandisement by the beaten path of blood and ravage, to seek it by works of benevolent reparation. He began to rebuild the city walls, to redeem such of the inhabitants as were in slavery, and diligently to search for all who were scattered about the countries round the Hellespont.

While he was thus engaged, an embassy came from the Romans, who had temporised while there was danger from Philip, but who now assumed a haughtier tone. Their ambassadors required him to give up all that had been taken from Ptolemy, and to abstain from attacking any of the independent cities, or of those which had been subject to Philip. For the Romans, they said, having conquered the Macedonian, it would be hard that Antiochus should forestall their winnings; nor could they guess with what object, save hostility towards Rome, he had entered Europe with so great a force.

The king replied that he knew not what concern the Romans had in Asia, and craved that they would not meddle there, more than he did in Italy. He had crossed into Europe to recover the territories which his ancestor Seleucus had conquered from Lysimachus. To the other points he answered in a manner no less calculated to exclude all controul of his proceedings. The conference ended in mutual dissatisfaction. A false report arriving of Ptolemy's death, Antiochus hastened towards Egypt, and on learning the truth went to winter in his Syrian capital of Antioch.

When the ten commissioners returned

from Greece to Rome, they assured the senate that a dangerous war was impending on the part of Antiochus, but advised that, while it was delayed, they should take an advantage of the interval to settle the state of Greece more firmly, and increase their claims of gratitude from the nation by putting down the tyranny of Nabis. The proposal was warmly canvassed, but at last it was referred to the discretion of the proconsul. He had made himself generally esteemed and beloved, except among the Ætolians, not less for moderation and liberality after victory than for able conduct in the war. He gladly embraced so fair an opportunity of extending and confirming his popularity; and summoning a meeting of the allies at Corinth, he spoke to this effect. "In the war against Philip, the Romans and the Greeks had each their peculiar motives of action; but that on which I now consult you only affects yourselves. I ask you whether you are willing that Argos should remain under the dominion of Nabis, or whether you think it but reasonable, that one of the noblest and most ancient Grecian cities should be restored to that freedom which the rest are enjoying. This question in no wise touches the welfare of the Romans. Your interests only are at stake, and I will be wholly guided by your opinion."

The Athenians praised the high deserts of the Romans towards Greece, and complained of some who detracted from the past by speaking mistrustfully of the future. This called up the Ætolian Alexander. The Athenians, he said, once the champions of liberty, were now the servile flatterers of power. The Achæians had supported Philip, and had only changed with his fortune; yet they had Corinth, and looked for Argos, while the Ætolians, the original allies of Rome, were cheated of Pharsalus and Echinus. He would not trust the Romans, while they held Demetrias and Chalcis; for they had ever maintained to Philip that Greece could not be free while those places were garrisoned. This matter of Nabis was but a pretence for keeping their army in Greece. Let that be withdrawn, and the Ætolians would bring him to reason.

This vaunt aroused Aristæus, the general of the Achæians. He prayed heaven that Argos might never be so miserable, as to be the prize of a contest between a Lacedæmonian tyrant and

Ætolian robbers; and begged Flamininus not only to recover that city from the one, but also to provide for the security of Greece against the rapacity of the others. The general voice of the assembly was against the Ætolians; and Flamininus, therefore, deemed it needless to answer them. He put the question of war with Nabis, unless Argos were restored to the Achæians; and the decree was passed without opposition.

The Roman army having quitted its quarters at Elateia, and entered Peloponnesus, was soon joined by the Achæians; and the united forces pitched their camp within four miles of Argos. Pythagoras, the tyrant's son-in-law, who commanded in the place, was diligent in preparation, but he could not altogether conceal his fears as to the issue. There was danger within, as well as without, for a plot had been laid for the expulsion of the garrison; but it was betrayed to the governor before it was ripe for execution. The conspirators flew to arms, when they knew that they were discovered, but they found no support, and soon perished in unequal combat. Many persons were arrested and put to death; and many on the following night let themselves down by ropes from the wall, and joined the Romans.

At the persuasion of the refugees, who expected that his approach would be the signal of immediate insurrection, the Roman general led his army to the gates. Nothing stirred within, and he called a council to determine whether to besiege the place. The Grecian leaders generally recommended the siege; Aristæus only opposed it, and the proconsul agreed with him. He was warring, he said, against the tyrant, for the benefit of the Argians: he would therefore attack, not Argos, but Lacedæmon. He proceeded towards Laconia, but waited on the border for provision, and for the forces of some of his allies. Among others who came were fifteen hundred Macedonians from Philip. The camp was full of Lacedæmonian exiles, driven out at different times by the several tyrants. Among these was Agesipolis, the grandson of Cleombrotus, who had been declared king after the death of Cleomenes, but whom, being then an infant, Lycurgus had expelled. Great forces were assembled by sea, as well as by land; for L. Quinctius coming from Leucas with forty ships was joined

by the Rhodians with eighteen; and ten decked gallees, with a crowd of smaller craft, were brought by Eumenes, the son and successor of Attalus, who had died about the close of the late war.

Meanwhile Nabis was increasing his army and strengthening the defences of the city; and to guard against internal revolt, well knowing that he had not the good will of the citizens, he endeavoured to work upon their fears. He called a meeting of the people, and surrounded it with armed mercenaries. Excusing his present harsh proceeding by the danger of the time, and promising, when that was over, to dismiss the arrested persons, he summoned by name about eighty the most distinguished of the youth, and those whom he most feared. Each as he answered was arrested; and that night they were all slain. Some Helots being charged with attempting desertion were whipped through the streets and put to death. These examples were effectual in quieting the multitude by terror. But he kept his forces within the city, for he neither deemed himself a match for the Romans in the field, nor dared to leave the people uncontrolled by his presence.

The confederate army entered Laconia, and passed under the walls of Sparta. Two warm attacks were made upon it from the town on two successive days; but both were repulsed, and with these exceptions the march was unmolested. After ravaging part of the country, the Roman general sat down before Gythium, the naval arsenal of Lacedæmon. He was there met by the fleet, which had already brought most of the maritime towns to submission. The siege of Gythium was vigorously commenced, and the works were pushed with great rapidity, by the aid of a multitude of hands from the shipping. The place was strong and well defended, but it was in the end obliged to submit.

Nabis now requested a conference with Flamininus. When they met he complained that he was attacked in violation of existing treaty, and craved to know what provocation he had given. The Roman alleged his oppressions and cruelties, and various acts of aggression towards the neighbouring states, together with his own obligations as an ally of the Achæans, and as the professed deliverer of Greece. But he could not clear himself from the charge of inconsistency, for the principal acts of which he complained, and particularly the oc-

cupation of Argos, were prior to the treaty of alliance which he had concluded with Nabis against Philip. The tyrant finally consented to give up Argos; and requested that, if any thing further were required, he might have it in writing, to consult on it with his friends. They parted therefore, and Flamininus deliberated with his allies on the terms which were to be given. The greater part advised that war should be continued till the tyrant were deposed. The proconsul wished for peace. Their hopes, he said, could only be realized by besieging Lacedæmon; and it would be rash to embark in so difficult an undertaking at a time when hostility was much apprehended from Antiochus. Besides this reason, which he publicly urged, he had a secret motive of his own, which often influenced the conduct of Roman leaders; the fear that he might be superseded by one of the consuls, and thus deprived of the glory of finishing the war. His arguments did not at first produce conviction, but he reached his object by a different road. Professing to come round to the opinion of his allies, he began to state the exertions and sacrifices which would be necessary to the attainment of their wishes: and these appeared so great to all, considering the general poverty and inward disorders of the states, that they bade him do what he deemed best for Rome and for her confederates.

Having gained their consent he prescribed the terms of peace, taking counsel as to the particulars with his officers only. He required that Nabis should give up Argos and its dependencies, with all slaves belonging to the state or to individuals: that he should restore all the ships he had taken from the maritime states, and should keep but two galleys of not more than sixteen oars each. To all the states allied with Rome he was to restore their prisoners and deserters; to the Messenians all such articles of property as the owners could identify; to the Lacedæmonian exiles their effects, their children, and their wives, or such of them at least as wished to follow them into banishment. He was forbidden to make war, to build new fortresses, and to contract alliances; and specially precluded from all connection with Crete, the great market for mercenary soldiers. All the cities which had already submitted to the Romans were to remain independent and unmolested. For the performance of these

conditions, he was to give five hostages, to be chosen by the Roman general, and among them his own son : and he was to pay a hundred talents of silver forthwith, and fifty annually for eight years.

The only thing in these conditions satisfactory to Nabis was, that nothing was said about restoring the exiles. On the other hand he was very unwilling to surrender his fleet, and to resign the dominion of the maritime towns. With the first he had increased his revenues by piracy ; from the second he had drawn the best recruits for his army. He was inclined upon the whole to reject the demands, and to this he was encouraged by most of his adherents, great part of whom, besides the general hardness of the terms, were personally touched by some particular conditions. Those who had taken the wives or the property of exiles were displeased with the call for restitution ; and the emancipated slaves of Argian masters were with reason averse from returning to them. The mercenaries in general, whose harvest time was in war, were of course unwilling to hear of peace ; and the more as any, who were dismissed from the service of Nabis, might have found it unsafe to return to their homes, since the hatred of the tyrant, which prevailed throughout Greece, extended to his instruments. When Nabis saw the temper of his followers, he summoned an assembly, and laying before them the proposals of the Romans, with suitable comments on their exorbitance, he finally asked what answer he should make. Make none, was the cry, but continue the war ; and the war was accordingly continued. Some skirmishes took place, in the last of which the Lacedæmonians were roughly handled and driven to their walls. They did not venture any further sallies, and nothing remained but to besiege the city.

Sparta, unwall'd, according to the command of Lycurgus, during the period of its strength, had, in after times, been fortified at the most accessible points. Flamininus prepared to assault it on all sides, having increased his force to fifty thousand men by the aid of the sailors from the fleet. He thus hoped to confound and bewilder the besieged, and prevent them from concentrating their forces on the principal points of attack. This plan was not without effect. The tyrant himself was so distracted and dismayed, as to be unable to direct the defence : but

his place was filled by Pythagoras, his son-in-law. At length a passage was forced against all opposition, and the town would unavoidably have been taken, had not Pythagoras ordered that the houses adjoining should be fired. This effectually stopped the Romans, and obliged them to retreat. Flamininus renewed the attack in various manners on the three following days, though his hope of success was chiefly grounded on the fear which he had inspired in the defenders. At length Pythagoras was sent to sue for peace. At first he was commanded to depart from the camp ; but by supplications he obtained a hearing, and peace was made on the same conditions which had before been offered and refused.

The Argians had already been emboldened by the danger of Lacedæmon, by the absence of Pythagoras with the best of his forces, and by the weakness of those who remained, to rise in arms and expel the garrison. They spared the life of the commanding officer, because he had ruled them mildly. During the general rejoicing Flamininus arrived, with the news that peace was made ; and the people then proceeded to celebrate the Nemean festival, which had been delayed beyond the usual time. Great joy was caused by the return of the citizens who had been driven into banishment by Nabis and Pythagoras. The Roman general, as the author of their liberty, was requested to preside at the solemnity. The only circumstance which damped the exultation of the Argians and Achæians, was that Lacedæmon still remained under the power of the tyrant ; and of this the Ætolians availed themselves as a handle for complaint against the Romans.

After the festival was over, the Roman army was led back to Elateia, to be quartered there for the winter : and the general spent that season, according to Livy, in doing justice within the states, and reversing the arbitrary acts committed by Philip and his officers to strengthen the hands of their friends and deprive their enemies of their rights. These transactions would doubtless have assumed an opposite complexion in the mouth of a writer friendly to Macedonia, who would have represented Philip as protecting the laws, and Flamininus as overruling them. The simple fact is, probably, that each established and maintained his own party in power ; which the Roman may

perhaps have done with less violence, since his habitual conduct seems to have been milder, and his superiority was less disputed.

In the beginning of spring, before quitting the province, the proconsul summoned a meeting at Corinth. Here related the acts of his predecessors and his own, all of which were heard with great applause, till he came to the mention of Nabis; whose escape from destruction was evidently a general cause of dissatisfaction. He excused himself by arguing that the tyrant could not have been overthrown, except with the ruin of Lacedæmon. He then declared his intention of sailing for Italy, and carrying with him all his army. In ten days the garrisons should be withdrawn from Demetrias and Chalcis, and the Acrocorinthus should immediately be delivered to the Achæians; so that all might see the good faith of the Romans and the falsehood of the Ætolians. He impressed on his hearers the necessity of concord, moderation, and firmness: by these virtues they must keep the liberty which had been given to them, and prove the benefits of Rome not ill bestowed. His words were interrupted by the tears and applauses of the assembly; but when the tumult was hushed he went on to request that they would search out and redeem the Roman citizens who were in slavery among them. These were prisoners sold by Hannibal, and their number was very great. The hearers promised compliance, and thanked him for reminding him of so sacred a duty. Before the assembly broke up, the garrison was seen descending from the Acrocorinthus; and the general departed with them, amidst the acclamations of all present. He fulfilled his pledge with respect to Chalcis and Demetrias, and then proceeded to settle the affairs of Thessaly, which was much torn with continual seditions, by distributing the powers of government in every state according to a scale of property. He finally returned to Rome, and was honoured with a triumphal procession, the highest honour the commonwealth could bestow on a successful commander.

Flamininus appears to have been really solicitous for the welfare of the Greeks, and even for their liberty, as long as it did not clash with the pride or interest of Rome. In its immediate effect, his administration was beneficial; for he left the country unusually

tranquil, and many cities free which had lately been oppressed. Yet more arbitrary conduct might in the end have been better for the Greeks, if it had weaned them from asking Rome to interfere in their quarrels, and united them, ere it was too late, in the determination to resist that interference if obtruded on them forcibly. To affect moderation and disinterestedness till a footing should be gained was a not unfrequent art of Roman ambition; and such a policy was never so likely to succeed, as when the person chosen to carry it into effect was partly sincere in his professions. Flamininus, though not a man of nice or elevated morality, was an ardent lover of popularity, and one who coveted the fame of beneficence, as well as of talent and power. His character suited the purpose of his commonwealth, as long as opinion was to be courted; and sterner agents enough were to be found, when the times were ripe for violence.

SECT. II.—The discontent of the Ætolians did not slumber. Their ambassadors were busy wherever there was hope of stirring up enemies to the Romans, and their views extended to a coalition with Nabis, Philip, and Antiochus. They urged upon the first the weakness to which he had been reduced by losing the maritime cities; and suggested that he might never again have so fair an opportunity for their recovery, since no Roman army was now in Greece, and it was not likely that fresh legions should be sent on their account. To Philip they spoke of his present humiliation, contrasting it with the triumphs of his predecessors, and asking whether he, who had so long alone withstood the Romans and Ætolians combined, might not now defy the Romans, when he had both the Ætolians and Antiochus on his side. To Antiochus they magnified their own forces and the advantages of their situation, and assured him of support both from Philip and from Nabis. These promises appear to have been unauthorised, though the latter was verified in the event.

Nabis immediately began to stir up dissension in all the maritime towns of Laconia; he won some of the leaders to his interest by bribes, and procured the murder of others. The Achæians sent ambassadors to remind him of the treaty, and others to Rome, with the news of its violation; and as Gythium

was already besieged, they sent troops to assist in its defence. The Roman senate, on receiving their complaint, equipped a fleet for their assistance, under Aulus Atilius, one of the prætors, officers next in rank to the consuls. Flamininus and three others were appointed commissioners to take care of the Roman interest in Greece; and as the negotiations with Antiochus were continually assuming a more unfriendly complexion, preparations were made in case it should be necessary to engage in war on a larger scale.

Meantime Nabis pressed the siege of Gythium, and wasted the lands of the Achæians, in revenge for the succours which they had thrown into the place. Still they did not venture to engage unreservedly in the war, until the return of their ambassadors from Rome; a fact which illustrates the nature of that independence which the Romans professed to have given to the states of Greece. The ambassadors returned, and the Roman commissioners with them; and then the Achæians assembled their great council at Sicyon, and sent to Flamininus for advice. The voice of the assembly was for immediate war; but some delay and doubt was caused by the letters of Flamininus, who recommended waiting for the Roman prætor and his fleet. The multitude called for the opinion of Philopœmen, who was then chief magistrate. He replied that it was a wise enactment of the Ætolians, that the general should not give an opinion on any question of peace or war. It belonged to them to make their choice; and whatever they decreed he would endeavour to execute in such a manner that they should have no occasion to repent of it. The impression of the assembly was, that his judgment was for war, and it carried the greater weight from his unwillingness to express it in a case where he might have been biassed by personal feelings. War was voted, and the time and manner of waging it left to the discretion of the general. He thought it would have been better to wait for the Romans, if the time had admitted it; but fearing that Gythium might be lost in the interval, he resolved to make an effort for its rescue.

Nabis, at the end of the late war, had surrendered his fleet to the Romans, according to treaty; but he had since collected three-decked galleys, and many smaller vessels, and these he was daily

exercising, for he considered the fate of Gythium to depend on his success in excluding all relief by sea. Philopœmen went against him with the ships of the Achæians; but this great commander, born and bred in the inland province of Arcadia, was a mere novice in naval warfare. He had taken for his own an old and rotten vessel, which went to pieces at the first shock. Philopœmen escaped in a skiff, but his crew were made prisoners, and on seeing the fate of the leading ship, the others took to flight. This failure on an element where he knew himself unskilful, did not discourage the Achæian general, but only made him more eager to prove his superiority on the land. The tyrant had detached a portion of his forces to occupy a post commanding the way by which, if the siege were to be raised, the relieving army would probably advance. The soldiers had, for the most part, constructed their huts with reeds and branches. Philopœmen, having secretly collected a number of small vessels on the Argian coast, embarked with a body of troops, chiefly light armed, and came in the night to the encampment. Before his arrival was known to any, he had fired the huts on every side, and the flames and the sword did their work so effectually, that but few escaped to the camp before Gythium.

Having thus effaced whatever discouragement had been occasioned among his soldiers by his maritime disaster, Philopœmen advanced with his army to Tegea, where he had appointed a meeting of the Achæians, and their allies. He stated to them his purpose of advancing against Sparta, as the only method of removing the besiegers from Gythium. But the place was taken on the very day on which he entered Laconia, and Nabis immediately quitted it to take a position for the protection of Sparta. On the following day, as Philopœmen was advancing, in ignorance that Gythium was lost, he unexpectedly came upon the Lacedæmonian army, strongly posted in the way by which he intended to proceed. The surprise was not without danger; for his forces were extended through a distance of five miles, on account of the narrowness of the way; while the ground was such that light troops only could act with effect, and most of the light troops, as well as the cavalry, were in the rear. But Philopœmen had been accustomed in travelling, whenever he came to any

difficult defile, to speculate on the manner in which, if passing through it with an army, he would repel every attack which could be made, expected or unexpected, in front, or flank, or rear. He had exercised himself with such problems, till hardly any possible combination of circumstances could take him altogether unprepared. He now quickly threw his host into such an arrangement, as gave it all the security which the case would allow. But darkness came on in time to prevent any considerable collision between the armies, and they passed the night within five hundred paces of each other, but separated by a river.

On the morrow an engagement took place between the horse and light troops on each side, and those of Nabis were drawn into an ambush, and defeated. Philopœmen knew that his antagonist was fearful, and resolved to practise on his terrors while the impression of his discomfiture was fresh. He sent a soldier into his camp under the pretence of deserting, who persuaded him that the Achæians were about to cut him off from the city. On the following day the tyrant hastily retreated. The way was narrow, steep, and rugged; and the enemy attacked him vigorously in the rear: his troops were entirely routed, and the pursuit did not cease till three-fourths of them were slain or taken. Nabis escaped into the city; and Philopœmen ravaged Laconia for thirty days, and then led home his forces.

While these things passed in Peloponnesus, the Roman commissioners were visiting the cities of their allies, lest the Ætolians should have prevailed on any to favour Antiochus. They went first to Athens, then to Chalcis, then into Thessaly: and having addressed the great council of the Thessalians, they proceeded to Demetrias, the capital of the Magnes. They had here a more difficult game to play, for some of the Magnete leaders were decidedly alienated from the Romans on account of a prevailing suspicion that they meant to restore Demetrias to Philip. The commissioners wished to quiet the apprehensions of the Magnes, without destroying the hopes of Philip; and accordingly they framed their language so as to convey the idea that Demetrias was to continue independent, but carefully avoided giving any positive pledge of their intention. Upon this Eurylochus, the chief magistrate of the Magnes, plainly stated the current report, de-

clared that all extremities were to be endured before Demetrias should be surrendered to the Macedonian, and went so far as to say that even now it was but nominally free, since all was done in it according to the 'pleasure of the Romans. This last sally provoked Flamininus to anger, to which he may perhaps have yielded the more readily for the sake of avoiding to answer the suspicion alleged. He spread his hands towards heaven, and called the gods to witness Magnesian perfidy and ingratitude. All present were alarmed at this expression of indignation, and Zenon, a man of authority, and a constant friend to the Romans, besought him not to impute to the nation the madness of an individual. The multitude concurred in the request; and Eurylochus privately withdrew, and fled to the Ætolians.

This nation was daily more and more decided in hostility to Rome. Thoas, its leading man, had just returned from a mission to Antiochus, bringing with him Menippus as ambassador from the king; who promised to aid them largely with ships and men, foot, horse, and elephants, and, what moved them most of all, with abundance of gold. The meeting of the Ætolians was at hand, at which Menippus was to have his audience; and Flamininus requested of the Athenians that it might be attended by ambassadors from them. When the day arrived, Menippus, being introduced into the assembly, lamented that his master had not been able to come to Greece till by Philip's defeat it had fallen altogether under the power of the Romans. He trusted, however, that with the aid of the Ætolians Antiochus would be able to restore the ancient dignity of Greece; which consisted in freedom maintained by arms, and not enjoyed during the pleasure of foreigners. The Athenian ambassadors, who followed, made no mention of the king, but simply reminded the assembly of their alliance with Rome, and of the obligations of all Greece to Flamininus; and advised them, before they declared against the Romans, at least to hear their officers, who were not far off. Thus much was obtained by the authority of the principal elders, though even this was against the inclination of the multitude. A vote was passed that the Romans should be admitted to a hearing, and Flamininus accordingly went into Ætolia. But he could not withstand the influence of Thoas and his party, or

prevent a decree from being carried in his presence, which invited Antiochus to liberate Greece, and settle the differences between the Ætolians and Romans. To this the general Damocritus added an insult of his own; for when Flaminius asked for a copy of the decree, he replied that he had then more pressing business, but he would shortly give it him in Italy, in his camp on the banks of the Tiber.

The Roman commissioners returned to Corinth, and the Ætolian leaders employed themselves in devising some bold stroke for the beginning of the war. The result of their deliberations was, indeed, such as showed a more than usual audacity; for they undertook at once to occupy Demetrias, Chalcis, and Lacedæmon. The first of these projects was committed to Diocles, the commander of the cavalry; and Eurylochus the Magneæ assisted him, in the hope of restoration. The part of Eurylochus, in this affair, was marked with scandalous treachery. He directed his kinsmen and partisans to bring before the assembly his wife and children in mourning habits with the ensigns of suppliants, and to beseech those present each and all that they would not suffer a man, uncondemned and guiltless, to grow old in exile. The multitude was moved, and the general voice was in favour of his recall. He set out towards Demetrias, attended by Diocles with all his cavalry. When they came within six miles of the city, Diocles chose three troops to go forward with himself, and commanded the rest to follow at a distance. He left one troop at the gates, to secure an entrance for their comrades; with the others he advanced through the streets leading Eurylochus by the hand, while all his friends were thronging to welcome him. Meanwhile the horsemen filled the city, and occupied all commanding posts; and when this was done, persons were sent into the houses to murder the leaders of the adverse party. Thus Demetrias came into the hands of the Ætolians, by a trick not unlike to that which had made the Romans masters of Thebes.

To gain Lacedæmon it was considered that no force need be put on the wishes of the citizens, who would gladly join in friendship with any that should rid them of their tyrant. Nabis was continually urging the Ætolians to send him aid in a war, in which they had mainly prevailed on him to engage. Alexamenus was

sent with a thousand foot, and thirty chosen horsemen; and these latter were charged by Damocritus in the secret council of state, an institution apparently peculiar to the Ætolians, that they should not think that they were sent for war with the Achæians, or for any end which they could possibly guess; but that whatever Alexamenus should do, however rash, however unexpected, they should undoubtedly concur in it, as if they knew it to be the special purpose of their mission. Alexamenus came with his soldiers to Nabis, and filled him with joy by his assurances of further support. At his suggestion the Lacedæmonian army was more frequently reviewed. At such times the tyrant's guards were posted in the middle of the line, and he himself was wont to ride about the field and visit the different divisions, attended only by two or three horsemen, one of whom was commonly Alexamenus. That chief, on the day which he had chosen for the execution of his plot, after riding awhile with the tyrant, returned to the right, where the Ætolians were posted. "Now," he said to his thirty horsemen, "the deed is to be done, which you are commanded to execute under my direction. Prepare your hearts and hands, and do as I do. Who hesitates, can never return home." The tyrant approached. "Be ready with your spears," said Alexamenus, and look on me." He paused to collect himself, then dashing forward killed the horse of Nabis, and threw the rider to the ground, where his followers dispatched him.

Alexamenus hastened to occupy the palace, with all the Ætolians, both those who had come with him, and others who had previously been engaged in the service of Nabis. If they had grounded their arms and called an assembly of the Lacedæmonians, and their leader had spoken to the people as suited the occasion, the happiness of the deliverance might have covered the foulness of the treason, so that no one would have stirred to avenge it. Instead of this, Alexamenus remained shut up in the palace, searching the treasury of the tyrant, while his followers fell to plunder, as if they had taken the city. This was too much, and the Lacedæmonians flew to arms. They set a boy of the royal race on horseback at their head, and going through the streets slaughtered all the Ætolians whom they met with. They then forced the gates of the palace, and killed Alexamenus, and the few

about him, who resisted to the last. The rest of the Ætolians assembled, for the most part, about the Brazen House. They were here attacked on every side, and most of them were slain: but a few escaped to Tegea and Megalopolis, where they were sold for slaves.

Philopœmen, when he heard that the tyrant was dead, immediately hastened to Lacedæmon, and calling together the principal men, addressed them in such language as Alexamenus ought to have used. He persuaded them to join in alliance with the Achæians, the more easily because at that very time Atilius came with his fleet to Gythium. Thus shame and loss were all the portion of those who plotted the treachery, while the benefits of it were reaped by their enemies.

About this time Thoas attempted Chalcis, having prepared a party among the citizens to favour the enterprise, by means of Euthymidas, an exiled Chalcidian leader, and Herodorus, a Cîan merchant, who had gained by his riches great influence in the place. The plot was suspected by Miction and Xenocleides, the chiefs of the Roman party. At first they were so much dismayed as to think of nothing but flight; but afterwards taking courage, they procured assistance from the neighbouring towns of Eretria and Carystus, and then, leaving the walls in the care of the auxiliaries, led out the citizens to meet the Ætolians. When the latter approached, they sent messengers to ask what offence in word or act the Chalcidians had given, that the Ætolians, their friends and allies, should come to attack them. Thoas replied that they came not to attack them, but to free them from the Romans: the Chalcidians denied that they were under any constraint; and Thoas retired without attempting any thing further, since his force had been calculated only for surprisal, and not for a campaign or a siege.

SECT. III.—Antiochus was now on the point of commencing the war, after a long time spent in preparing for it, and deliberating on the manner of conducting it. Among his counsellors was Hannibal, who was an exile at his court. Three years before he had been chief magistrate of Carthage. The state was then oppressed by the order of judges, a standing oligarchy, who held men's lives and fortunes at their mercy. They had hitherto been appointed for life; but Hannibal broke their power by carrying

a law to make their office annual. The public revenues had been wasted through remissness, or pillaged through corruption: he adopted a rigorous system of accounting, which enabled him at once to lighten the taxes, and amply to provide for the service of the commonwealth. But by these reforms he added, to his enemies, all those whose pride had exulted in power beyond the laws, or whose avarice had fattened on the public spoils. It was stated in letters to Rome that he corresponded with Antiochus. The Roman government, which hated and feared him, unworthily profited by the malice of his enemies, and without further inquiry sent ambassadors to Carthage to arraign him. But as soon as they came he suspected their object; and secretly escaping from Carthage he took refuge with Antiochus.

Hannibal advised that he should be sent with a fleet and army first to Africa, in the hope of stirring his countrymen to revolt; and then should go to Italy, and once more attack the Romans in the sources of their strength. Antiochus was nearly persuaded to comply, when his purpose was shaken by the envious suggestions of Thoas the Ætolian. It was dangerous, he said, to trust an exile; and the military fame by which Hannibal was recommended was in fact too great for a royal general. If Hannibal lost a fleet or an army, the damage would fall upon the king; if he gained a victory, the glory would be all his own; but if he conquered the Romans in the main issue of the war, the throne itself would not be safe from his ambition. Antiochus was prevailed on, unhappily for himself, to give up the attempts on Africa and Italy, and to make no use of Hannibal's abilities, except sometimes as an adviser.

Near the end of the year B. C. 194, Antiochus sailed for Greece, and landed at Demetrias. The Ætolians forthwith passed a decree inviting him to come to them, and when he came he was welcomed by the crowd with shouts, and with every mark of joy and favour. When he was brought into the great council, he began by excusing the small force which he had brought with him, which was but of ten thousand foot, six hundred horse, and six elephants. But, he said, it was the strongest proof of his good-will, that he had complied at once with the summons of their ambassadors, without waiting till his preparations were completed. In the following spring, as soon

as the season favoured navigation, he would cover the land with his armies, and the sea with his fleets. In the meantime he requested that plenty of corn might be provided, and all other necessities supplied to his soldiers at a moderate rate.

When the king had quitted the assembly, a dispute arose between Phæneas and Thoas, the two leaders of the nation. The former, who was the existing chief magistrate, was of opinion that Antiochus should rather be employed as a mediator, to settle their differences with the Romans, than as their leader in the war. His name might probably, Phæneas thought, be more serviceable than his arms; and much might be conceded to avoid a war, which could not be gained if the war were begun. Thoas maintained that all peaceful methods had already been tried, both by embassies to Rome, and by conference with Flaminius; that nothing fair or just was to be thus obtained; and that therefore they should not lose the opportunity which now presented itself of enforcing their claims by arms. This opinion prevailed; the Ætolians voted that Antiochus should be their commander, and appointed a committee of thirty, with whom he should consult.

The first measure adopted by Antiochus and the Ætolians was an unsuccessful attempt to draw the people of Chalcis to their interest. They then sent ambassadors to the Achæians and Bœotians. The latter replied that, when the king arrived in Bœotia, they would then consider his proposals. In the Achæian assembly the envoy of Antiochus was first admitted to a hearing. He magnified his master's power and riches, and declared that, though he had come from the furthest east to liberate Greece, he did not call on the Achæians for any thing contrary to the faith which they had pledged to the Romans, but only for their neutrality. His request was supported by the Ætolian ambassador, who, moreover, enlarged in invective against the Romans, disparaging their part in the victory over Philip, and exaggerating that of his own countrymen. Flaminius followed in answer to both; the question was put, and the assembly determined without hesitation to support the Romans, and voted five hundred troops to be sent to Chalcis, and five hundred to Peiræus. The latter vote was occasioned by an attempt which had been made to win the Athenians

for Antiochus. The Roman party had, however, prevailed; they had sent for Flaminius; and had accused the proposer of the revolt, and procured his banishment.

The Achæian troops arrived at Chalcis, with some from Eumenes of Pergamus. Five hundred Romans, who were afterwards sent, found the ways beset, and stopped at Delium. The war had not been formally declared, nor had any actual hostility yet been committed; and the soldiers, not expecting to be attacked, were wandering about the temple and the neighbouring shore, when they were suddenly charged by one of the king's generals, Menippus, and most of them killed or taken. Antiochus then led his army to Aulis, and sent ambassadors again to Chalcis, with better success than before. The people opened the gates to his army, and the friends of Rome went into exile. The Achæians, who were garrisoning a fort on the continent, capitulated for permission to depart; and the leading city of Eubœa being won, the others readily submitted.

Antiochus passed the winter at Chalcis, and employed it in opening negotiations with some states, and receiving overtures from others. The Eleians, being constant allies of the Ætolians, expected attack from the Achæians; and sending ambassadors, they obtained from the king a thousand troops to assist in their defence. The Epirots sent an embassy to ask that he would not rashly draw them into the contest, since they would be, in consequence of their position, the first to feel the hostility of Rome. If he, they said, had force enough to protect them, they would gladly receive him in their cities and ports; if not, they prayed him to excuse their inaction. Antiochus answered that he would send ambassadors to consult with them further, and then he went into Bœotia.

The Bœotians, in spite of all their natural advantages, had become a weak and degraded people. Long since, during the reign of Antigonus Gonatas, or of his son, they had suffered a great overthrow from the Ætolians. In their most flourishing times they had been less distinguished for intellectual activity, than for their easy, careless temper, and the homely plenty of their living. Illiterate opulence is apt to be beset by intemperance and sloth; and these constitutional tendencies had recently been little counteracted by the political organ-

ization of the province, disordered by repeated revolutions. These considerations may partly reconcile our understandings to a change, which loses much of its strangeness when viewed as the consummation to which a course of degeneracy had been gradually tending ; but which otherwise it might be difficult to believe, even on the authority of Polybius. So broken, he says, was the spirit of the Bœotians by that one unfortunate battle, that thenceforth they never ventured to contend for any honourable prize, but gave themselves up to feasting and drunkenness, to the ruin alike of their bodies and their minds.

Immediately after their discomfiture they abandoned the Achaian alliance, and joined themselves with the Ætolians. They adhered to their new engagements till war arose with Demetrius, the father of Philip ; but when the Macedonian forces entered their country, they submitted with scarcely an attempt at resistance. From this time the government was in the hands of a faction supported by Macedonia, while the opposing party was just strong enough to make it necessary for the Macedonian kings to attend to the interest of their friends. In other respects the state of the commonwealth was as bad as possible. For twenty-five years, Polybius declares, there had been no administration of justice, the sittings of the courts having been continually interrupted by the summons of the magistrates to engage in military expeditions more or less considerable. That the cause alleged was adequate to the effect, will easily be understood by those who remember that, in the popularly constituted communities of Greece, the judicial body was always a numerous assembly of citizens. Many of the generals were ever making largesses from the public treasury to the multitude ; and by this, and by the suspension of legal proceedings, they made active partisans of all who profited by the distributions, and of all who had debts or offences to answer for. The disorders of the commonwealth were increased by a fashion then prevailing among individuals, who, dying childless, left their fortunes, and sometimes the greater part even when they had children, to be employed in the establishment and maintenance of convivial clubs among their associates ; inasmuch that many of the Bœotians, the historian declares, had more suppers in the month than there were days in it. Disgust at the public customs and pri-

vate manners of the Bœotians induced the Megarians to depart from their confederacy, and reunite themselves to the Achæians, whom they had formerly quitted by their own advice, when Cleomenes, by occupying the Isthmus, prevented free communication with them. The Bœotians marched out in high wrath with all their forces, and finding that the Megarians disregarded their arrival, they undertook to besiege and assault the city ; but a panic fear arising among them, and a report that Philipœmen and the Achæians were coming, they fled to their own country, leaving their ladders before the walls.

Notwithstanding the political disorders of the Bœotians, their fortune had hitherto carried them safely through a very critical period. Antiochus now sought to engage them in war with the Romans, and his purpose was favoured by the resentment, which had rankled in their minds since the murder of Brachylas, and the invasion of their country by Flamininus. He was received into their city with every mark of welcome, and he easily persuaded them to join in alliance with him.

Antiochus consulted with the Ætolians about the manner of gaining the Thessalians ; and now, after a long intermission, he asked the opinion of Hannibal. The Carthaginian replied that it was needless to concern himself about those who were ready to join the prevailing party, and who brought no real strength to either. He had always thought that the alliance to be courted was that of Philip, whose power was great, and for whom, if once he engaged in the contest, there could be no safety in retreat. The Ætolians, he proceeded, had repeatedly declared that Philip's hostility to Rome was only waiting for opportunity to show itself ; that opportunity should immediately be given. His own sentiments with respect to the general conduct of the war were already known : he still held the same opinions, and urged the king to engage in it at once with all his forces, and to send an army into Italy.

The advice of Hannibal was approved and neglected. Ambassadors were sent to the great council of the Thessalians at Larissa, and a day was appointed for the Ætolian forces, and those of Amynander, king of the Athamanians, who had also joined the league, to meet the king at Pheræ. While waiting for them, Antiochus sent a party to collect the

bones of the Macedonians slain at Cynoscephalæ. This was probably designed to court the favour of the Macedonian people at the expense of their own king, who had omitted to do it. It failed to gratify them, and gave deep offence to Philip, who immediately sent to Marcus Bæbius, the Roman commander in Greece, to inform him that Antiochus was in Thessaly, and to offer service against him.

The Thessalians adhered to their alliance with Rome, and Antiochus with his allies laid siege to Pheræ, which after a vigorous defence was obliged to surrender. Several towns were gained by force or by capitulation, and the army advanced to Larissa. The inhabitants persevered in resistance; and the king was doubting whether to besiege them, when he was alarmed by the news of an approaching Roman army. It was really but a detachment sent to garrison Larissa: but the commander, by enlarging his encampment and kindling unnecessary fires, had caused his troops to be mistaken for the whole Roman host, together with that of Philip. This needless apprehension determined the allies to raise the siege. Amynder and the Ætolians returned to their homes, Antiochus to Demetrias, and thence to Chalcis. He there fell in love with a maiden of the city, and prevailed on her father to give her to him in marriage, though much disliking so unequal an alliance. Forgetful of the arduous task he had undertaken, the driving the Romans out of Greece, he gave all his thoughts during the rest of the winter to the festivities of his wedding: and the disordered state of his army at the opening of the next campaign showed that officers and soldiers had too faithfully copied the negligence and self-indulgence of their chief.

The first important transaction of the spring was an attempt on Acarnania, conducted through Mnesilochus, a leading man in the province, and Clytus, the then chief magistrate. Mnesilochus suggested in the national congress that the inland parts of Acarnania, especially the towns of Medeon and Thyrium, were in danger from Antiochus and from the Ætolians, and that it was time for all the people to take arms in their defence. Other persons were prepared to say that a general expedition was needless, for the places might be secured by reinforcing them with five hundred men. Three hundred were accordingly sent

to Medeon, and two hundred to Thyrium: all of whom Mnesilochus intended should come into the power of Antiochus, and serve as hostages for the conduct of their countrymen. About that time ambassadors came to Medeon from the king, and the question arose what answer should be given. Some were anxious not to swerve from their engagements with the Romans, while others maintained that the friendship of Antiochus was not to be slighted: but a middle course was agreed on at the suggestion of Clytus, which was that an embassy should be sent to ask permission for the Medeonians to consult the great council of the nation. Care was taken that among the ambassadors should be Mnesilochus and others of his faction; and they found excuses for delaying their departure, till just after they quitted the city, Antiochus having been secretly summoned came with his army to the gates. While those ignorant of the plot were calling to arms in hurry and confusion, he was quietly introduced into the city by Clytus and Mnesilochus. His friends all thronged to him in good will, his enemies through fear; and he gave to the latter such assurances as were fittest to quiet their apprehensions. Some less important places then submitted, but Thyrium held out against him, and the friends of Rome were encouraged by the arrival of a Roman squadron and a body of troops. It was moreover reported that a Roman consul had crossed the sea and entered Thessaly; and this induced Antiochus to return to Chalcis.

The consul Manius Acilius Glabrio had actually come with fresh legions into Thessaly. He had found there Philip and M. Bæbius, who had already recovered many of the conquests of Antiochus: and when they were joined by the new comers, they found nothing which could resist them. Among the prisoners who came into the power of Philip were many of the Athamanians, all of whom he treated with the utmost kindness, and set free, in the hope of winning the affections of their countrymen. He then led his army into Athamania. Amynder had fled from the country, in fear of Philip and the Romans: and the people, prepossessed in favour of the Macedonian by the liberated prisoners, readily submitted. Meantime the consul refreshed his army, and reduced to submission whatever was yet hostile in Thessaly.

Antiochus was beginning to repent having trusted to the promises of the Ætolians, and to wish that he had acted through the war on the counsels of Hannibal. He sent to call for a general levy of the Ætolian youth: but the chiefs only came with a few of their dependents, and said, that they had vainly laboured to rouse the multitude to arms. He was moreover disappointed in the amount of his own forces: for in spite of messengers sent into Asia to quicken the preparations of his officers, no further reinforcements yet had reached him than filled up his numbers to the original ten thousand foot and five hundred horse. Too weak to contend in open field with the Romans, he intrenched himself in the pass of Thermopylæ, in the hope of preventing their advance. The Ætolians were sent forward to the defence of Hypata and Heracleia. Being unable to hinder the ravage of the fields, they shut themselves up in the latter place.

The consul encamped at the mouth of the pass. Antiochus, fearing that his flank might be turned, as had been done by the Persians against Leonidas, sent a message to the Ætolians requesting them to occupy the heights. They were divided among themselves whether to comply or refuse, and finally half of them did as they were required, the rest remained at Heracleia. Acilius advanced to force the pass: but he met with a determined resistance from the Syrian Macedonians, the descendants of those who had conquered under Alexander. They were, indeed, borne back by superior numbers to their intrenchments, but they formed behind them, and their pikes and close array presented an impenetrable barrier. Meantime a detachment commanded by Marcus Cato, (who had already been consul and was afterwards censor) had surprised and cut to pieces one division of the Ætolians on the ridge. Their appearance on the flank put the Macedonians to the rout. The king escaped to Chalcis with about five hundred men: the rest were mostly slain or taken.

Acilius advanced through Phocis and Bœotia. At the gates of every city to which he came, he was met by the inhabitants in the guise of suppliants, for they feared to be given up to pillage in consequence of their revolt. He proceeded, however, as in a friendly territory, till he came to Coroneia. Here his anger was kindled at seeing a statue

of Antiochus in the temple of Minerva, and he gave his soldiers permission to plunder the country. Soon afterwards he recalled the order, remembering that the statue had been erected by the common decree of the Bœotians, and that their act ought not to be visited on the Coroneians in particular. He contented himself with rebuking the ingratitude of the Bœotians, and went on to Chalcis, which opened its gates on his arrival, Antiochus having sailed for Asia. After receiving the submission of all Eubœa, he led back his army to Thermopylæ.

A message was sent to the Ætolians in Heracleia, offering pardon to themselves and to their nation for their revolt, if they would immediately submit. They refused, and the consul laid siege to the town. The Ætolians, unprovided with defensive engines, had no means of checking the operations of the besiegers, except by sallies to interrupt and destroy their works, which they executed with great activity and boldness. But they being few were soon worn out with fatigue, while the Romans had always fresh men to send into action. The consul kept up a continued attack for four and twenty days and nights: he then adopted the custom of suspending it for several hours after midnight. The Ætolians gladly availed themselves of the opportunity to rest, and kept but little watch during the interval: and of this the consul availed himself to make a sudden attack, and pass the walls while they were undefended. The Ætolians fled into the citadel, which they were soon obliged to surrender. The Romans were gratified by finding among the prisoners Damocritus, whose arrogant answer to Flamininus has already been mentioned. During the siege of Heracleia, Philip had been, by agreement with Acilius, besieging Lamia, and had nearly reduced it to surrender: but now that Heracleia was taken, the Roman general imperiously required him to relinquish the siege, on the ground that, since his soldiers had fought the battle with the Ætolians, it was just that they should enjoy the fruits of victory.

The capture of Heracleia determined the Ætolian government to sue for peace. Ambassadors were sent to Acilius, who said that he was not then at leisure to attend to them, but he granted a truce for ten days, during which they might confer with Lucius Valerius Flaccus, one of his officers. In the discussions

which ensued the Ætolians were beginning to speak of their former merits towards the Romans: but they were cut short by Flaccus, who told them that such pleas were out of date, since they had cancelled all claims of friendship by their revolt. He advised them to give up all arguments on the score of justice, and simply to beg for mercy. They at length resolved to refer the whole question to the consul, and commit themselves to the faith of the Romans: "not knowing," Polybius observes, "the effect of this, but being misled by the word faith, as if on this account they would meet with milder treatment. Whereas with the Romans to commit one's self to their faith is the same thing as to surrender one's self to the pleasure of the victor."

The vote of surrender having been past by the secret council, Phæneas and some others were sent to announce it to the consul. They pleaded to him the cause of their country, and ended by saying that the Ætolians had resolved to throw themselves on the faith of the Romans. Acilius asked whether this was really so: and being assured of it, he said, that no Ætolian should be allowed to go into Asia, whether privately or in a public capacity, and further demanded that several persons, among whom was king Amynder, should be delivered to the Romans. "But this," said Phæneas, "is neither just, nor according to Grecian manners." "Do you talk," Acilius exclaimed, "of justice and of Grecian manners, who have committed yourselves to my faith? you, whom I, if it seem good to me, will carry away in bonds." He ordered chains to be brought, and an iron collar to be put on the neck of each. The Ætolians stood in mute astonishment: but Flaccus and some other officers begged their general to remember that the men before him were ambassadors. Phæneas then said that his commands should be executed, as far as depended on the secret council; but the consent of the people was also necessary to their fulfilment. The truce was prolonged for ten days more, and Phæneas returned to the secret council. It was there determined that an assembly should be summoned: but when the particulars of the conference became generally known, the indignation of the people rose so high that they would not even meet to deliberate on submission. The truce expired; they gathered their forces at Naupac-

tus; and the Roman general proceeded thither and laid siege to the place.

About this time Messene was besieged by the Achaïans. This and Elis were the only states in Peloponnesus that were not included in the Achaïan league; and both of them had in this war taken part with the Ætolians. After the defeat and departure of Antiochus, the Achaïans had sent ambassadors to both, to invite them into their confederacy. The Eleians replied that they would consider what was to be done, and afterwards they complied; the Messenians returned no answer; upon which the Achaïans ravaged their lands and encamped before their walls. The Messenians sent to Flamininus, and informed him that they would willingly open their gates to the Romans, but not to the Achaïans. He straightway required the Achaïan general Diophanes to withdraw his army from the siege, and come to him. Diophanes obeyed; and the Roman, after gently rebuking him for engaging without his sanction in so important a transaction, bade him dismiss his army. He then required the Messenians to recal their exiles, and unite themselves with the Achaïans, which they accordingly did. He moreover craved a meeting of the Achaïans, to hear his complaint that they had occupied Zacynthus (Zante), to the injury of the Romans, to whom it properly belonged. The meeting was called. Diophanes defended the claims of his commonwealth: but the assembly agreed to leave the matter in the hands of Flamininus, and when he maintained the claim of Rome, and supported it by arguments both of right and expediency, they voted with one consent that it should be given up to him.

Meantime Philip, having obtained the consent of Acilius to his recovering the cities which had revolted from the Roman alliance, led his forces to Demetrias. The inhabitants, he knew, were in the greatest alarm, having now no hope of protection from Antiochus or from the Ætolians, and expecting daily to be attacked either by Philip, or by the Romans, whom they dreaded more, having more deeply offended them. The place was full of the soldiers of Antiochus; but a large proportion of these were unarmed fugitives; and when Philip sent to summon them to surrender, the gates were opened to him. The soldiers of Antiochus were sent to Lysimachia, with a guard of Macedonians to protect

them; and some ships of war, which were in the harbour, were suffered to depart. Philip then reduced to submission Dolopia, Aperantia, and some cities of Perrhæbia.

Two months had been spent in the siege of Naupactus; the place was nearly reduced to extremity; and it seemed that, if it were taken by assault, the Ætolian nation would be utterly destroyed. The consul appears to have intended that this catastrophe should follow; but Flamininus determined, if possible, to prevent it. He repaired to the Roman leaguer, and beginning to walk before the walls he was quickly recognised by the hostile sentinels. The report that it was he quickly spread through the town, and the Ætolians crowded to the walls, and stretching out their hands, and calling on him by name, besought him to help and preserve them. He signified with his hand that he could not assist them. He went, however, to the consul, and asked him whether he had considered, that he had spent his time in besieging two cities, till his year of command was verging to its close, while Philip had been adding whole nations to his kingdom. The consul was moved by the suggestion, but, having begun the siege, he was unwilling to abandon it; he agreed, however, to leave the matter in the hands of Flamininus, who then returned to the lines, and, when the Ætolians renewed their supplications, bade some of them come out to him. Phæneas and some other chiefs approached, and fell at his feet. He reminded them that he had foretold what would happen, and that they had neglected his warnings. He advised them, however, to send to the consul, and request a truce, during which they might send an embassy to Rome, and submit themselves to the pleasure of the senate; and he promised that he would support their petition. They did as he directed; the truce was granted; and the Roman army was withdrawn into Phocis. About the same time the Roman fleet had crossed the sea to the coast of Ionia; and, being joined by that of Eumenes, had won a great victory over the fleet of Antiochus.

The Ætolian ambassadors arrived at Rome, but they found there little mercy. After much debate, the choice was offered them, whether to place themselves altogether at the free disposal of the senate, or to pay at once a thousand talents (upwards of 200,000*l.*), and to

have the same friends and enemies as the Romans. They requested that the questions might be specified, with respect to which the senate required the unlimited power of decision; the specification was refused, and the ambassadors were sent back bootless. The war was recommenced. The Ætolians prevented the Roman general from returning to the siege of Naupactus, by occupying a difficult pass which lay upon the way; but suddenly attacking Lamia, he took it by assault, and then proceeding to Amphissa, laid siege to that place by regular approaches. He was here superseded in command by the new consul, Lucius Scipio, the brother of Publius Scipio Africanus, the conqueror of Carthage in the second Punic war. Africanus accompanied his brother as his lieutenant: by offering which he had determined the senate to assign to him the province of Greece, and the war with Antiochus.

The Scipios wished as soon as possible to finish the Ætolian war, in order that they might be at liberty to pass into Asia against Antiochus. They therefore gladly received an Athenian embassy, which was sent to intercede for peace, and bade them go forward, and try the temper of the Ætolians. They readily caught at any hope of accommodation, and sent ambassadors, who communicated first with Africanus. He received them kindly, reminding them of the various proofs which he had given in Spain and Africa of clemency towards the vanquished, and bidding them place themselves in his hands, and trust in him. This filled them with hope; but their disappointment was extreme, when the consul, upon their asking on what terms peace would be granted, repeated the two alternatives which had already been proposed at Rome. They returned, however, to consult the nation. The thousand talents were more than the Ætolians could raise, and they feared to commit themselves to the discretion of the Romans, for they remembered how they had been treated by Acilius. The ambassadors returned, and requested, either that the sum should be diminished, or that the persons of the citizens should be excepted from the surrender: but the consul replied, that he had no authority to abate the demands of the senate, and they again returned without effecting an agreement. The Athenians now advised them to apply for a six-months' truce, during

which they might negotiate with the senate; for time, at least, would be gained, and something might happen in the interval to better their condition, which nothing could possibly make worse. The suggestion was adopted; it suited the purpose of the Scipios, and Lucius was persuaded by his brother to comply.

The Roman army then proceeded into Thessaly, the intention of its leaders being to pass into Asia through Macedonia and Thrace. This route was scarcely practicable without the consent of Philip, or even without his active assistance, by providing markets, making roads and bridges, and the like. All these services, however, he readily performed, and after giving the Scipios a royal welcome in Macedonia, he accompanied them to the Hellespont.

In the naval victory obtained in the preceding summer by the Romans over Antiochus, no Rhodian squadron had been present; and they now sent out thirty-six ships in the beginning of spring, intending to make up for their then remissness by their present promptitude. The principal naval commander of Antiochus was Polyxenidas, a Rhodian exile; and he, hearing that Pausistratus, the Rhodian admiral, had spoken of him slightly, was entirely occupied with devising some great stroke to be made against him. He communicated secretly with him, and offered to betray the royal fleet into his hands, if he might be rewarded with restoration to his country. Pausistratus would not trust him till he had received a written assurance of his intention; but then he thought that, had he meant to continue in the service of Antiochus, he would never have given so dangerous a document. Polyxenidas promised that his ships should be ill manned, and unprepared for action; that some should be scattered to neighbouring ports, and others drawn up for repairs, and that then he would send information when to attack them. He made some show of executing his promise, but secretly kept all his seamen in readiness, while Pausistratus, thinking that no danger was at hand, neglected all the customary precautions. One night he sailed from Ephesus to the neighbouring haven of Panormus, where the Rhodians were lying. He beset the mouth of the harbour with his ships, while a party which he had landed attacked the enemy upon the shore. The surprise was complete,

Pausistratus perished, fighting bravely in the attempt to force a passage out of the port, an attempt in which seven ships succeeded, but all the rest were taken.

The grief of the Rhodians was enhanced by the loss of many young men of their most illustrious families, whom the high character of Pausistratus had induced to accompany him; and it was combined with anger that they should have suffered this calamity through fraud, and at the hands of a countryman. They sent out, however, twenty ships without delay, which joined the Roman fleet. The summer was spent in active naval warfare, and the Romans and their allies were almost uniformly successful. The Rhodians separately gained one considerable victory, and their services were eminent in others that were won by the confederate fleet.

Antiochus, having lost by the last of these battles all hope of further disputing the command of the sea, determined to withdraw his garrison from Lysimachia, which he saw that he was no longer able to succour. This resolution was an unwise one. The place would probably have held out through the winter, and the besiegers would have suffered great distress; whereas now, after their toilsome march through Thrace, they found an open city, convenient quarters, and a plentiful market; and after stopping to refresh themselves, and collect their sick men and their baggage, they were ready at once to enter Asia. All necessary preparations had been made by Eumenes, and the army crossed the Hellespont unopposed. After a fruitless attempt to obtain peace, on any tolerable conditions, Antiochus met the Romans in battle, and was defeated with great slaughter. He then sued for peace on whatever terms. It was granted, according to a practice not uncommon with the Romans, on conditions little differing from those which the Romans had offered before the battle, the most important being, that the king should give up all Asia within Mount Taurus. (B. c. 191.)

It remained for the Romans to determine what was to be done with the conquered countries. An embassy came from the Rhodians, requesting the liberty of all the Asiatic Greeks; while Eumenes craved that they should rather be made tributary to him, in reward for his services and sufferings in the war, in which he had nearly lost his kingdom, and had

been besieged in his capital of Pergamus. The senate assigned to Eumenes all that they had taken in Asia from Antiochus, excepting part of Lycia and Caria, which they gave to the Rhodians, and such of the Grecian cities as had not been subject to Attalus, which they declared independent.

The Ætolians, during the truce with Rome, had been at war with Philip. Since the conquest of Athamania, the Macedonian governors had ruled that country in such a manner as to make the inhabitants regret their native prince. Letters were sent to him in Ætolia, which gave him the hope of recovering his kingdom; he answered that, if he were assured of support from the people, he would return into Athamania, and that the Ætolian government would assist him with troops. All was secretly arranged, so that on the appointed day the insurrection broke out in four places simultaneously, and Amynder entered the country with a thousand Ætolians. The Macedonian garrisons were every where driven out; and Philip, who, as soon as he heard of the revolt, had hastened to quell it, was obliged to retreat with loss. The Ætolians then recovered Amphiloehia, which had formerly been theirs, with the good will of the people. Dolopia also had submitted through fear; but in the midst of these successes they were alarmed by the news that peace was denied them at Rome, and that the new consul, Marcus Fulvius, had crossed the sea with his army. On hearing this, they resolved to send another embassy to Rome, and moreover to solicit the intercession of the Rhodians and Athenians.

The consul formed the siege of Ambracia. The place was strong, and vigorously defended, both by engines and by arms; but it was evident that it must ultimately fall, unless the siege could be interrupted from without. At the same time the Ætolian coast was wasted by hostile fleets, and Dolopia and Amphiloehia were invaded by Perseus, the son of Philip. Utterly unable to make head against so many different attacks, the Ætolians, after many attempts to soften the inflexibility of their enemies, resolved to submit to whatever conditions might be imposed. The Athenians and Rhodians interceded in their favour; Amynder also acted as a mediator, having previously made his peace with the Romans; and their prayer was supported by the consul's half brother,

Caius Valerius Lævinus, the son of Marcus, who had negotiated their original alliance with Rome. He considered himself as called on, according to a custom prevalent among the Romans, to act in a manner as the patron of a people whom his father had united in friendship with Rome; and his influence with the consul was not small. Peace was granted at length by Fulvius, and confirmed by the senate and the people, on the terms that the Ætolians should hold, as friends and enemies, the friends and enemies of the Romans, and assist the Romans in all their wars; that they should pay forthwith two hundred talents of silver, and fifty, annually, for six years; that they should give forty hostages; and that neither the Cephalenians, nor any city which had submitted to the Romans since the consulship of Flamininus, should be included in their community. (B. C. 190.)

CHAPTER XV.

Of Greece, from the submission of the Ætolians to Rome, till the Roman conquest of Macedonia.

SECT. I.—THE Achaian congress had, ever since its first institution, been usually held at Ægium. Philopœmen wished to break this custom, and to obtain a law by which it should meet at every city in rotation. Being general at the time, he tried the experiment of summoning it at Argos. His summons was generally obeyed; but the discussion of the change which he wished to make was delayed by a quarrel with Lacedæmon. At the defeat of Nabis, that state had been deprived of all the maritime towns of Laconia, many of which were now peopled in great measure with Lacedæmonian exiles, inveterately hostile to their countrymen in the city. The latter, suffering no small inconvenience through their entire exclusion from the sea, attempted the recovery of one of these towns. They surprised it by night, but in the ensuing day they were driven out. The attempt, however, raised a general terror in the people of the coast, especially in the exiles; and they sent to the Achaians to complain and ask for succour.

Philopœmen was ever friendly to the exiles, and jealous of the city Lacedæmonians; and he moved and carried a decree, That since the Romans had en-

trusted the maritime towns of Laconia to the protection of the Achaians, and the Lacedæmonians had assaulted one of those towns, which they were bound by treaty not to injure, unless the authors of that measure were given up to the Achaians, they would consider the treaty as broken. Ambassadors were sent to demand the persons in question. This harsh and haughty requisition fired the Lacedæmonians with anger, and the more as they suspected that Philopœmen intended, by repeated arbitrary acts, to inure them to submission, and finally to place the city in the power of the exiles. They inflicted death on thirty persons suspected to be friends of Philopœmen and the exiles; renounced the alliance of the Achaians; and sent to the Roman consul, entreating him to take them under the protection of his commonwealth as dependent allies.

War was declared by the Achaians, but winter hindered decisive action. The consul came into Peloponnesus, and at his desire a meeting was held at Elis, at which the Lacedæmonians were invited to attend. A warm debate ensued, which Fulvius ended by requiring that the war should be suspended, till each party should have sent ambassadors to Rome. The heads of the Achaian embassy were Diophanes and Lycortas, the latter the father of Polybius the historian. Both were eminent men, and both of Megalopolis; but their political sentiments were different, and they disagreed in the conduct of their mission. Diophanes offered to refer the question to the judgment of the senate; while Lycortas required, as he had been instructed by Philopœmen, that the liberty of the Achaians should not be invaded, but they should be allowed to execute their lawful decrees. The senate gave an ambiguous answer, which the Achaians understood as leaving them unfettered.

Philopœmen was continued for another year in office; and in the beginning of spring he encamped on the Lacedæmonian border, and sent to demand that the authors of the revolt should be surrendered. Those who were demanded by name declared that they would go, under the assurance that they should suffer nothing without trial; and some others of the principal citizens went with them to plead their cause. On no other occasion had the Achaians ever brought with them the Lacedæmonian exiles, when they entered the territory of Lace-

dæmon: but now the van of the army was chiefly composed of them. At the sight of their enemies their resentment broke out in all the violence of Grecian party rage: they began with railing, and went on to strike and stone them; the tumult increased, and many of the Achaians were prevailed on by the exiles to join with them; and in spite of all which the general and the ambassadors could do, seventeen of the Lacedæmonians were killed. The rest, in number sixty-three, were saved from the violence of the crowd by the exertions of Philopœmen. To this his faith was pledged, and this was the only favour he was inclined to show them. On the following day they were brought to plead their cause before the multitude; the little they spoke was unfavourably heard, and they were condemned and led to execution.

After this bloody act of revenge and intimidation, the Achaians prescribed the terms of peace. These were that the walls of Lacedæmon should be demolished; that all foreign mercenaries should quit the country, as well as all the slaves who had been liberated by the tyrants; that any of the latter who remained might be seized and sold by the Achaians; that the laws of Lycurgus should be abolished, and those of the Achaians adopted in their room. A decree was passed at Tegea in the great council of the Achaians, that the exiles should be restored; the most galling of all injunctions to those in the city. Information being brought that the liberated slaves had quitted the city, but remained dispersed about the country, Philopœmen was sent with a body of light troops to seize them. Many were caught and sold; and the price of them was applied to the rebuilding of a portico in Megalopolis, which had been destroyed by the Lacedæmonians.

Thus, in the year B. C. 189, the laws of Lycurgus came to an end, after seven centuries of existence. During most of that period they had maintained Lacedæmon at the highest pitch of power, and carried her onward with unfailing energy in the career of what the world calls glory. How far they promoted real excellence of character, we have often had occasion to remark. Before the times of Agis and Cleomenes, they had long been verging to decay. The vigorous measures of the latter reformer seemed to promise their entire renovation: but his ambition provoked a

host of enemies, who drove him into exile before he had time to consolidate his work; and by his violences, and the changes which followed his expulsion, the state was left more unsettled than before. Usurpers rose and fell, each more lawless than his predecessor, and little remained of the ancient constitution, long before it was formally abolished. In all these revolutions the Lacedæmonians appear as a people little capable of governing itself; and their incorporation with the Achæians, however galling to their national pride, appears to have furnished the best method of rescuing them from anarchy.

The Lacedæmonians sent ambassadors to Rome to complain of the harshness with which they had been treated: and the Romans were ready to listen to any complaint which gave them an opportunity of breaking the independent spirit of the Achæians. Achæian ministers, however, were sent to defend their government; and they reported on returning that the senate was manifestly dissatisfied, but had not actually demanded the reversal of any of their proceedings. This report was made in a congress held at Megalopolis, when Aristænus was general, in the third year after the submission of Lacedæmon.

Among other embassies received at the same congress, was one from Eumenes, to renew the alliance contracted with his father, and to offer a gift of 120 talents, from the interest of which a salary might be provided for the representatives of the Achæian states in their great council. Apollonidas, of Sicyon, dissuaded the assembly from accepting it: for each man, whether a magistrate or a private individual, was forbidden by law to take gifts from princes; but here the wages of subserviency were openly proffered to all in common: and yet, he said, the feelings and interests of monarchs are naturally opposed to those of democracies; so that if we take the money of Eumenes, we shall risk to be unavoidably either servile or unthankful. He was followed by Cassander of Ægina, who reminded the assembly that his native city had been taken, in consequence of its adherence to their league, by the Roman general Sulpicius; that all the inhabitants had been made slaves, and the island given up, according to agreement, to the Ætolians, who had sold it to Attalus. He called on Eumenes, if he really wished to merit thanks from the Achæians, to restore to

them Ægina; and on the Achæians, not to cut off all hopes from the unhappy Æginetans, by accepting a favour which would for ever preclude all endeavours for their deliverance. So great was the effect of these speeches on the meeting, that the gift was refused by general acclamation, and no man ventured to recommend its acceptance.

Soon after, during the Nemean festival, Aristænus summoned the men in authority to meet in council at Argos. Quintus Cæcilius Metellus had arrived there, on his return from Macedonia, whither he had been sent on an embassy by the Romans: he came into the council, complained that they had treated the Lacedæmonians with undue severity, and exhorted them to repair their error. It plainly appeared by the silence of Aristænus, that he agreed in sentiment with the speaker; and Diophanes even suggested fresh accusations against the government of his country: but Philopœmen and Lycortas answered at length, maintaining the justice and expediency of what had been done, and the impossibility of alteration. The council resolved that nothing should be changed. Metellus then demanded a general congress. They asked to see his commission from the senate: and when he made no answer, they declared that the laws did not allow a meeting to be held for the reception of an ambassador, unless he brought written credentials, stating the object of his coming. The pride of the Roman took fire at this repulse, and he went away without receiving the answer of the council. Aristænus and Diophanes became popularly suspected of having, by intrigues with the Romans, contributed to the dangers which threatened Achæian independence; the first through a strong attachment to their interest, which he had manifested from the beginning; the second through enmity to Philopœmen.

Apollonidas and others were sent to Rome, to repel the expected complaints of Metellus, and the charges of the Lacedæmonian ambassadors. These were Areus and Alcibiades, exiles restored by the Achæians, who were now foremost in petitioning against their restorers. After hearing all parties, the senate decreed to send an embassy into Peloponnesus. Before it came, the Achæians were assembled, to prepare for the discussion. Lycortas, who was general, complained that the Lacedæmonians had been converted from adversaries into accusers,

and were now more dangerous than before their conquest. He proceeded to comment on the ingratitude of Areus and Alcibiades; the multitude broke out into vehement indignation; and a hasty vote was passed, condemning both to death.

The Roman ambassadors arrived a few days after. A congress was called, and they appeared attended by the men whom the preceding assembly had condemned. Appius Claudius, the leader, declared that the senate was displeased with the acts of which the Lacedæmonians complained; with the tumultuous massacre and the subsequent executions, the demolition of the walls, and the abrogation of the laws. Lycortas replied to each particular. "You charge us, Romans, with the death of those whom Philopœmen, when general, demanded for trial. This complaint befits not you to make, nor even to receive. Your treaty provided that the maritime towns should not be molested by Lacedæmon. Attacked when you were far away, to whom should they fly for aid, unless to us, your allies, whom they had seen giving succour to Gythium, and co-operating with you in the siege of Lacedæmon? We conquered for you in a righteous war: why question what the laws of war entitled us to do? Yet much of these charges concerns not us. We brought the authors of the wrong to trial; but that some of them were slain in entering the camp, this, Areus and Alcibiades, was not our deed, but yours and that of your fellow exiles.

"We razed, they say, the walls of Sparta, and abolished the institutions of Lycurgus. Those walls, expressly forbidden by Lycurgus, were built by the tyrants for their own defence and the coercion of the citizens, who ought to have been foremost in effacing those unseemly scars of former bondage. But we abolished the laws. I say those laws were already abolished by their tyrants: we could not abrogate them, but we gave our own.

"I know that this is not the language of allies or freemen, but of servants pleading with their lords. For if force be in treaties, or meaning in your assurances of liberty to Greece, why should you demand account of our conduct towards Lacedæmon, and we not ask about your conquests in Italy? Grant that we have put some men to death: did you not execute the senators

of Capua*? We demolished ramparts: you took to yourselves the city and the lands. The treaty, you will say, is equal in seeming; but really there is power on the one side, and on the other such liberty as it pleases the powerful to allow. I feel it, Appius, and, if patience be fitting, I am patient: yet let not your enemies be more favoured than your allies. We made them equals by giving them our laws: but that which satisfied the victors is too little for the vanquished. They bid us cancel decrees which we have sanctioned with oaths, and engraven on columns† for an everlasting memorial. We respect you, Romans; if you will, we even fear you: but we more respect and fear the immortal gods."

Lycortas was heard with general approbation, and all considered that he had spoken in a manner becoming the dignity of his office: so that the credit of Rome, it was easily seen, could not be upheld by gentle proceedings. Thus says the Roman historian Livy, in the spirit of his country: as if it could be necessary to the credit of a state to display its power by trampling on rights which it had repeatedly and solemnly pledged itself to maintain. The ambassador was fitly chosen for his mission, being one of a family always remarkable for overbearing pride. He strongly advised the Achæians, he said, to merit favour by doing freely what they would otherwise have to do against their wills. All heard these words with inward groaning, but they did not hazard further resistance. They annulled the condemnation of Areus and Alcibiades. With respect to the Lacedæmonians, they begged that the Romans would themselves make what changes they thought proper, and would not impose on the Achæians the reversal of acts which they had sworn to maintain.

* When a treaty was made between two Grecian states, the most usual and most solemn method of recording it was by engraving it on pillars erected for the purpose. These pillars were invested with a character of sacredness: and it was often agreed that they should be erected not only in the contracting cities, but also for the sake of giving to the treaty at once additional publicity and additional solemnity, at some of the great resorts for religious festivities, especially Olympia.

† In the second Punic war, the city of Capua, having revolted from the Romans and joined itself with Hannibal, was obliged to surrender to its former masters. The Roman general put to death fifty-three of its senators, most probably all whom he found in the place: and afterwards, by a decree of the Roman people, the citizens of Capua were entirely removed from their dwellings, and their lands and houses assigned to Roman colonists.

The negotiations continued at Rome, and among the embassies there assembled, were no less than four from different parties among the Lacedæmonians. One was from those who had been exiles, who sought to be restored to the full enjoyment of all their possessions, as before their expulsion. Another, headed by Areus and Alcibiades, recommended that restitution should be made to an amount not exceeding a talent to each, and that the remainder should be employed in recruiting the diminished people, by assigning portions for the maintenance of such as might seem to deserve admission to the rights of citizens. The third was from those who wished the commonwealth to remain on the footing on which it had been settled by the Achæians. The fourth from those whom the Achæians had expelled or condemned to death; who craved their own recall and a change in the government. The senate appointed Flamininus, Metellus, and Appius Claudius, as a committee to hear and decide on the various demands. They agreed that the exiles should be restored, and that Lacedæmon should still belong to the Achæian federation: on the other points they could not agree, but they made their award with respect to those which they had decided, and called on the Achæian ambassadors to say whether they consented. They were placed by this in some perplexity. The part of the award relating to the exiles was against the decrees of the Achæians, and against the inscription on the pillar which they had erected; yet on the whole they were not dissatisfied with the decision, since it retained Lacedæmon in union with them; and partly in embarrassment, and partly in fear, they finally put their seal to it.

About this time Messene had revolted from the Achæians, and sent an embassy to Rome to justify it. Deinocrates, the leader, was a personal friend of Flamininus: and he thought his work was done, when he found that Flamininus was going on an embassy to Prusias, king of Bithynia, since, through friendship to him and enmity to Philopœmen, he would use all his influence in his support. The Roman entered into all his counsels, and they went together into Greece. On arriving at Naupactus, Flamininus wrote to Philopœmen, and requested him to call a meeting of the Achæians. Philopœmen well knew that he had no instructions from the senate with respect to the affairs of Pelopon-

nesus, and he replied that he would summon the Achæians, if the other would state on what subject he intended to address them. This he did not venture to do, and so the hopes of Deinocrates were frustrated.

A war took place between the Achæians and Messenians, in which the former were altogether superior, when their prosperity was turned into mourning by a great and most unexpected disaster. Philopœmen was surprised by the enemy, when passing with a small party of cavalry through a difficult defile. It was thought that he might have escaped by the aid of some light-armed Thracians and Cretans in his band: but he would not quit the horsemen, whom he had recently selected from the noblest of the Achæians; and while he was bringing up the rear and bravely covering the retreat, his horse fell with him. He was seventy years old, and weakened by recent sickness; and he lay stunned and motionless under his horse, till he was found by the Messenians, who raised him from the ground with as much respect, as if he had been their own commander, and carried him to the city, sending before them the news that the war was finished, for Philopœmen was taken. The first impression of those who heard, was that the messenger was mad: but when others coming after, confirmed the statement, men, women, and children, freemen, and slaves, all crowded to see. So great was the throng, that the gates could scarcely be opened; and as the greater part could not see the prisoner, there was a general cry that he should be brought into the theatre close by. The magistrate showed him there for a moment, and then hastily removed him, for they feared the effects which might be produced by pity and reverence for so great a man, and gratitude for his merits. They then assembled in council, to deliberate how to dispose of him.

It grew late, and in addition to their other perplexities, they knew not where to keep him for the night. They would not take on themselves the responsibility of guarding him, nor trust it to any individual. At last they were reminded of a treasure chamber, underground, and walled on all sides with hewn stone. Into this they put him, and closed the entrance with a stone that could only be moved by a very powerful engine. On the morrow, the people were assembled, and remembering that their commonwealth had formerly received im-

portant benefits at his hands, the general sentiment was that he should be kindly treated, and the hope was expressed that by his means they might be extricated from their difficulties. But any hope, which looked towards reconciliation, was only a subject of fresh alarm to the authors of the revolt, in whose hands were all the principal magistracies. They were secretly consulting to a very different purpose; for it was unanimously resolved that Philopœmen should die. The only question was, whether his fate should be hastened or deferred; and on this point the more impatient prevailed. A cup of poison was sent into the dungeon. It is said, that Philopœmen asked the bearer, whether Lycortas and the horsemen had escaped; and when told that they had, he said, it is well, and calmly drank the poison. His eulogy is summed up by Polybius, with the words, that in forty years, during which he played a distinguished part in a democratical community, he never incurred the enmity of the people, though he spoke and acted freely and boldly, nor ever courted popular favour by compliance.

He was soon avenged. Lycortas being general, pressed the war, till the distress of the Messenians overcame their fear of the men in administration, and they began to talk of treating. Deinocrates and the other rulers yielded to the crisis, and retired to their houses; and the people were persuaded by the older men, and by some Bœotian ambassadors who chanced to be in the city, to sue for mercy to the Achaïans. Lycortas answered, that the only conditions on which peace would be granted, were, that they should straightway give up to him the authors of the revolt, and the murderers of Philopœmen; should submit themselves entirely in all other points to the discretion of the Achaïans; and should forthwith receive a garrison into their citadel. His answer was reported to the Messenians. Some had long been exasperated against the authors of the war, and were ready and even glad to deliver them to punishment: some, believing that they were safe in the hands of the Achaïans, consented willingly to give up all to their discretion; but all submitted without hesitation, for they felt that they had no alternative. Lycortas occupied the citadel, and then entering the city, he assembled the multitude, and assured them that they should not repent having trusted to the

Achaïans. The general settlement was referred to the great council of the nation, which just at that time was held at Megalopolis. Of those who had been delivered up to him as liable to punishment, he commanded that all who had been concerned in the murder of Philopœmen, should immediately put an end to their lives. The Achaïan congress then readmitted Messene into their fellowship on the same terms as before.

The account which the Achaïans gave at Rome of their difference with the Messenians, had been in the first instance unfavourably received; but when the Romans found that the war had been pursued and brought to an honourable ending, they gave a fresh answer to the same ambassadors, and told them they had provided that no arms or provisions should be carried from Italy to Messene. It seems they did not like that any important transaction should appear to have been successfully managed in Greece, without their participation. The ambassadors returned home, bringing with them the answer concerning Lacedæmon: and Lycortas called the Achaïans together at Sicyon to receive it, soon after they had settled the affairs of Messene.

It appears that, since the union of Lacedæmon with the Achaïans, some struggles of faction and consequent expulsions had taken place within that city; and that the principal sufferers had been among those of the old exiles, who had turned against their restorers. The present rulers wished to be in league with the Achaïans; and Lycortas advised his countrymen to close with the offer, and thus at once to receive into fellowship those who had kept faith with them throughout, and, by confirming their acts, to be rid of those who had required evil for the greatest benefits. Diophanes and some others pleaded for the exiles, and contended that all should not be sacrificed for the fault of a few; and it was finally agreed that the city should be received into the league, and that those of the exiles should be restored who had not offended against the Achaïans. On these terms the Lacedæmonians were again associated with the Achaïans, and a pillar was solemnly erected for a record of the transaction.

SECT. II.—While these events took place in Peloponnesus, there were altercations going on between Philip and the Romans, which visibly boded a rupture. The king had been offended by

the consul Acilius, when he employed him in the siege of Lamia, and then forbade him to take it. His anger had been softened by permission to master Athamania, and the cities possessed by the Ætoliens in Thessaly, and afterwards Demetrias and the Magnesæ: but he still applied his whole attention to the increase of his resources, that he might be prepared for a quarrel whenever it should arise; and among other measures to repair the waste of war in the population of his kingdom, he gave settlements to a great multitude of Thracians. Fresh matter of offence soon came. The Thessalians and Perrhæbians complained to Rome of his holding towns in their countries: ambassadors from Eumenes alleged that he had occupied certain cities in Thrace; accusations poured in from various quarters, and the Romans evinced an uniform determination to decide against him, whatever might be the merits of the case. The last of these decisions, which related to Ænus and Maroneia, towns of Thrace, that he had occupied and was required to give up, inflamed him to a pitch of savage ferocity, which he vented on the unfortunate Maronites, since he could not on the Romans. He sent directions to one of his officers that he should cut off the chiefs of the adverse party; and a body of Thracians being introduced by night, made great slaughter in the town. To the Roman ambassadors he said that the massacre had taken place in a sedition among the townsmen; not doubting that no one living in the place would dare to contradict him. They replied, that they were well informed as to the slaughter and its author, and required him to send to be examined by the senate, the two officers whom report accused as the chief instruments of it. He sent the one who had actually directed the execution: but to prevent his babbling, he poisoned him on the way.

Philip was now more than ever incensed against the Romans; but he wished to have further time for preparation before the commencement of war. He had two sons, Perseus and Demetrius. Demetrius, the younger, had been taken as a hostage by the Romans, at the conclusion of peace, and had since been sent back to him, as a proof of satisfaction with his conduct during the war with Antiochus and the Ætoliens. The young man, while at Rome, had been treated by the senate with great consideration; probably as well from

views of policy, as from real regard to his pleasing manners and promising talents. He was now deputed by his father to plead his cause before that body, and to answer the existing charges, as well as those which were constantly springing up, now that every complaint was seen to be acceptable.

The discussion went off amicably for the present, but care was taken by the senate to show that, if any thing was yielded to Philip, it was not on account of the justice of his claims, but as a favour to Demetrius. This indiscreet manifestation of friendship was very disastrous to its object, and to all the royal house of Macedonia, through the guilty ambition which it fostered in Demetrius, and the jealousy of Perseus and Philip. There were some, indeed, in the senate, whose conduct was liable to heavier charges than indiscretion. One leading man* at least held secret conference with Demetrius, and encouraged him to hope that the Romans would make him king. The policy of this is easily fathomed. If the hope were fulfilled, the new made king would be bound both by gratitude and by the necessity of support, to comply with the power that had raised him; and thus the liberty of his country might be made the price of his elevation. In any case the kingdom would be weakened by strife and mutual distrust in the royal family; and in the event of a Roman war, the foreign enemy might perhaps be supported by a Macedonian faction, with a son of Philip at its head.

Demetrius on his return was welcomed by the Macedonians with the strongest marks of favour, as well on account of his personal qualities, in which he far excelled his brother, as because they deemed him to have saved them from war with Rome. This exasperated the jealousy of his father and brother: but the former concealed his displeasure, while the latter bent all his efforts to the destruction of his rival. Meantime Philip, in preparing for war, used some measures of such desperate and reckless violence, that Polybius accounts for them, after the manner of his country, by supposing him possessed with furies sent by avenging justice to punish his many impieties and cruelties. He removed from all the principal maritime towns, the citizens, with

* There is reason to think that the person here hinted at by Polybius was Flaminius.

their wives and children, and planted Thracians in their stead, to whom he thought he could better trust in a Roman war. In order to secure himself against private revenge, he commanded that all the sons and daughters of all whom he had slain should be thrown into prison, where many were put to death. These actions filled the kingdom with mourning: the third tragedy was in his own family, where his sons were plotting against and accusing each other; and he was racked night and day with the horrible doubt which of them he should put to death on the evidence of the other, and which he should preserve to be an object of terror for the remainder of his life.

Here Polybius fails us: and the details of the sequel must be found in Livy, who tells them, however, with an evident partiality towards the favourite of Rome. Demetrius was charged by Perseus with an attempt upon his life: and Philip, after hearing the accusation and the defence, professed himself unable to decide on the truth or falsehood of the complaint. He was, however, prejudiced against Demetrius, on account of his attachment to the Romans, and his favour among them: while Perseus, who shared in his hostility against them, was trusted and admitted to his counsels. Demetrius being left in Macedonia while his father and brother were engaged in a military expedition, and seeing himself to be an object of suspicion, meditated flight to the Romans. His purpose was betrayed by one of his chief intimates, who, like many others of his household, had been seduced by Perseus. At the same time letters arrived from Rome, professing to be from Flamininus, which asked the pardon of Demetrius, for any talk imprudently held with the writer touching the Macedonian crown. These letters, when combined with the project of flight, convinced the king that his younger son was guilty of treason: and fearing to put him openly to death, lest it should prematurely disclose his hostility to Rome, he procured that he should be poisoned.

The short remainder of Philip's life was full of misery. He was full of regret for the son whom he had slain, and of misgivings as to the justice of the sentence: and he was also subject to continual mortifications from the survivor, who being now assured of the succession in his own and in the general

opinion, assumed little less than regal authority, and was more feared and followed than the actual monarch. Philip had a kinsman, Antigonus, whom Perseus hated because he could not mould him to his purposes. He, seeing little hope of safety to himself under the dominion of his enemy, undertook, if possible, to hinder his accession, and with that view to unravel his intrigues against his brother. According to Livy, he succeeded in proving, by the confession of the agents, that the letters of Flamininus, which led to the death of Demetrius, were a forgery. These confessions were however partly, or, according to some accounts, entirely drawn forth by torture: and there were authors who stated that one of those accused as agents could not be brought by torture to confession. Even without this latter statement, the value of the confessions which were made would be much diminished by the means of obtaining them: though the ancients appear, most strangely and unreasonably, to have deemed examination by torture the surest method of arriving at truth.

Though now convinced that Perseus was guilty, Philip found him too powerful to be punished. He only took care to keep at a distance, from his father, that he might be safe from any sudden violence. The king endeavoured to change the succession, and to make Antigonus his heir, but his life did not continue long enough to allow of his effecting his purpose. He died of a disease occasioned by remorse and continual agony of mind: and Perseus, having received the earliest intelligence of his danger, was on the spot to take advantage of his decease before it was generally known. He mounted the throne without opposition; and one of his first acts was to put Antigonus to death. (B. C. 180.)

Among other measures adopted by Philip with a view to war with Rome, was the invitation of the Bastarnæ, a barbarous nation from beyond the Danube. He intended that they should extirpate the Dardanians, a people always hostile to Macedonia; and then should proceed to the attack of Italy, leaving their families in the Dardanian country. In this case, if they were destroyed by the Romans, he hoped to enter unopposed into the possession of Dardania: but if they were successful, they would occupy the Romans, and he meanwhile would recover all his lost dominion in Greece. For these rea-

sons he had invited them, had engaged for their safe passage through Thrace, and had prevailed on the princes of that country to let them proceed; and to provide markets for their use.

They entered Thrace in a peaceful manner: but as soon as Philip's death was known, both nations began to fail in their engagements, the Thracians to withhold the necessary supplies, and the Bastarnæ to straggle and plunder. Mutual injuries soon led to avowed hostility. The Bastarnæ at first prevailed; the Thracians were obliged to seek a refuge on one lofty mountain, and here they were attacked. But besides the advantage resulting from their position, they were further aided by a violent storm, which greatly distressed and confounded the assailants. The Bastarnæ were repulsed. When they were again assembled in their camp, they disputed whether to advance or return. About thirty thousand went on, and reached Dardania: the rest returned across the Danube to their homes. A war ensued between the Dardanians, and those of the Bastarnæ who persevered, in which the invaders were victorious at first, but were finally expelled.

Perseus began his reign by sending an embassy to Rome, which was honourably received, and assurances of friendship were mutually given with equal sincerity. He set himself to seek the good opinion of the Greeks, by acts which might win him the reputation of humanity, and place his character in advantageous contrast with that of his father. He dismissed state prisoners, remitted debts which were due to the treasury, and recalled all those who had been driven from Macedonia by charges of treason, or by debts or fines which they were unable to pay. He was dignified in manners, diligent and able in discharging the ordinary duties of his station; and he observed, and enforced on all about him, a sobriety and temperance in pleasures very different from the habits of Philip. All these things tended to make him popular, and to assist the negotiations by which he endeavoured to engage the states of Greece in his interest.

In the fifth year of his reign, some of the Dolopians having revolted from him and appealed to Rome, he attacked and subdued them. He then went to Delphi to consult the oracle. His sudden appearance in the midst of Greece caused some alarm: but after three

days' stay he returned through Thessaly, without committing any injury in the country. He moreover sent ambassadors, not only to the states through which he passed, but to many others, and craved that all their quarrels with his father might be ended with his life. But above all he desired reconciliation with the Achaïans, whose enmity to Philip had been such, that a decree existed, forbidding the entrance of any Macedonian on their soil. The Achaïans in consequence could not venture into Macedonia, which was hence a refuge to their fugitive slaves. All these Perseus collected as far as he could, and sent them back with letters, importing that it belonged to the Achaïans to see that the mischief should not recur.

Among the most active speakers in the Achaïan assembly, was one Callicrates. After the last-mentioned settlement of affairs in Lacedæmon, the exiles had continued to solicit the Romans, and the Romans to urge their recall. Lycortas advised that the act should be maintained, and the senate informed that its reversal was precluded by the laws, and by all the mutual obligations of the confederate states. Callicrates contended that nothing should hinder obedience to Rome: but the assembly agreed with Lycortas, and sent an embassy with such instructions as he recommended. Unfortunately Callicrates was sent upon this mission; and he, instead of doing his errand, incited the senate to invade the independence of his country. He said that they encouraged the Greeks to disobedience, by not supporting the party, which maintained that laws, and oaths, and graven pillars, should yield to the will of the Romans. While left to themselves, the Achaïans would favour those who professed to stand up for law and liberty: but if the senate marked its preference of the men who upheld its unlimited authority, it would easily make the leaders its own, and the Many would be deterred from opposition. He reminded them of the war with Messene, which the Achaïans had waged and brought to an end without consulting them: though the Romans had never yet made this a subject of complaint. He recalled to them how often they had required the Achaïans to restore the Lacedæmonian exiles: instead of which they had pledged themselves anew to those in the city not to do it

These suggestions were too alluring for Roman integrity to withstand. The senate wrote not only to the Achaïans, that they should enforce the restoration of the exiles, but to the Ætolians, Epirots, Athenians, Bœotians, and Acarnanians, to request their utmost exertions in the cause. In their letters to the Achaïans, they expressed their wish that all Achaïan statesmen should be like Callicrates: and the traitor returned in triumph to his countrymen, who little guessed what public service had merited this praise.

Henceforward, Callicrates was the leader of a party which always recommended entire obedience to Rome. His influence was supported by the belief that he stood high in the good opinion of the senate, and that his favour with that body might be a protection to the commonwealth. He was chosen general, in which capacity he restored the Messenian and Lacedæmonian exiles: and in his after conduct he was ever ready to do whatever he deemed agreeable to the Romans. In the present instance, when Xenarchus the general had read the letters of Perseus to the Achaïans, and many were inclined to receive them favourably, Callicrates expressed an opposite opinion. A way, he said, was sought for introducing alliance with Macedonia, to the detriment of that connexion which existed with Rome. He made use of various arguments to show that a war was impending between the Romans and Perseus, and especially dwelt on the conquest of Dolopia, and the coming of the Macedonian king to Delphi. "If now," he said, "we repeal the decree which excludes the Macedonians from Peloponnesus, we shall again have royal ambassadors in the country, and interchange of hospitality between them and our chief men, and finally armies, and the king himself, crossing the gulf from Delphi; and thus we shall be mingled with Macedonians arming against Rome. I advise that nothing should be changed till we know whether our fears be just or not. If peace remain inviolate between the Macedonians and the Romans, we may then have friendship and intercourse with the former."

Archon, the brother of the general, spoke next. Callicrates, he said, had assumed to be acquainted with the intentions of Perseus and of the Romans. The Achaïans, however, knew not these, nor did it concern them to inquire: it

was enough for them that peace existed, and assurances of friendship had been mutually given. When Rome herself was at peace with Macedonia, why should the Achaïans cherish interminable hatred? And if the offences of Philip were to be remembered against his son, why should the many benefits formerly received from the Macedonian kings be entirely forgotten? No new alliance was now proposed, nor any breach of friendship with the Romans, but simply the repeal of an unsocial interdiction, injurious to private interests, and offensive to human feelings. If war broke out, not Perseus doubted their adherence to the Romans: but if peace could not put an end to hatred, it ought at least to suspend it. The arguments of Archon were extensively approved; but some of the leaders procured the postponement of the question, by suggesting that the dignity of the nation would suffer, if they listened to an overture made to them by letter, when the more respectful course would have been to send an embassy. An embassy afterwards came from the king, at a subsequent meeting of the Achaïans: but those who called themselves more especially the friends of Rome, succeeded in preventing its reception.

About this time the Ætolians were torn with bloody struggles of faction, chiefly arising from the debts with which the many were burdened. Wearied out with war, both parties sent ambassadors to Rome, and began to treat for reconciliation with each other: but a new, and most atrocious violence broke off the negotiation. The exiles of Hypata had been invited to return, the faith of the state was pledged to their safety, and the people went out to welcome them at their approach with every appearance of good will. Scarcely had they entered the gates, when eighty men, the chief of them, were slaughtered; and anger and distrust being thus revived, the war was rekindled with added violence throughout Ætolia. Some attempts were made unsuccessfully by the Romans to settle these disputes. In the following year, however, both parties appeared at Delphi, to defend themselves, and arraign their adversaries, before the Roman commissioner Marcellus. He declined to give sentence in favour of either, but prevailed on both to be mutually reconciled; and hostages being given by each party, were placed in custody at Corinth. In Thessaly and

Perrhæbia also, where like causes had led to like convulsions, tranquillity was restored by Appius Claudius Centho,* another Roman commissioner, who effected a compromise between the debtors and the creditors.

Marcellus went from Delphi into Peloponnesus, and made manifest the enmity of his commonwealth towards Perseus, by commending the Achæians for retaining the decree of exclusion against the Macedonians. The breaking out of war was hastened by Eumenes, who went to Rome to stimulate the senate. He made use of various arguments to show that Perseus was already a dangerous enemy to Rome; that his hostile disposition had been abundantly shown, and his power was daily increasing. These exhortations well accorded with the previous opinions and feelings of the Romans, and they were further exasperated by the Macedonian ambassador sent to Rome to justify his master, who spoke in language very different from that which they were accustomed to hear from their allies. His king, he said, had earnestly sought to clear his faith from suspicion; but if cause for quarrel were obstinately sought, he would defend himself with courage. The honours bestowed on Eumenes were such as showed that his counsels as well as his person were acceptable to the senate: and the envoy of Perseus returned in haste to his master, and announced that the preparations for war had not actually been commenced, but that it was evident they would not be long delayed.

Perseus was now in full readiness for war; but before commencing it, he plotted the death of Eumenes, whom he both hated and feared. It was known that this prince, in returning from Italy would visit Delphi; and in going thither he was waylaid by assassins, who stunned him with stones thrown upon him from above, and left him for dead upon the ground. The assassins escaped, but enough transpired to throw upon Perseus a strong suspicion of having employed them. Eumenes was taken up and embarked for Corinth, and again for Ægina; and thence, after a tedious and uncertain convalescence, he returned into Asia.

SECT. III.—About the beginning of the year B. C. 172, war was declared by the

Roman senate and people against Macedonia, and an army was ordered to be levied under the consul Publius Licinius. Ambassadors arriving from Perseus to express their master's surprise at the preparations making, and his desire of peace, were sent out of Italy, and informed that all communications were thenceforth to be made through the consul. Commissioners were sent into Greece, to exhort the allies of Rome to be faithful and active. The heart of Perseus failed at the sight of the approaching struggle, though it was the point to which his plans and those of his father had long been tending. He had a hereditary connexion of hospitality with Quintus Marcius, the first of the Roman commissioners; and this encouraged the hope that through him terms of peace might be obtained. The wily Roman gave countenance to this hope; for his commonwealth was at the moment unprepared for war, while all the preparations of Perseus were complete. A conference took place between them. At the king's entreaty Marcius consented to a truce, during which ambassadors might be sent from Macedonia to Rome; a step from which he knew that no result could be expected, except delay; and thus by the indiscreet timidity of Perseus he was enabled to assume the appearance of reluctantly granting, to urgent solicitation, the thing which he most wished to bring to pass, as very convenient to Rome and useless to her adversary. During the period of truce, various negotiations were carried on among the Grecian states, especially the Bœotians.

At the end of the war between the Romans and Antiochus, the administration of justice had been partly renewed among the Bœotians, after an intermission, as we may remember, of nearly twenty-five years. This was not done without great opposition, for there were many who profited by the continuance of disorder. About the same time Flamininus, in consideration for services received from Zeuxippus in the wars with Philip and with Antiochus, persuaded the Roman senate to write to the Bœotians, and require them to recall him and his fellow exiles. This they were loth to do, lest they should be withdrawn from the friendship of Macedonia. As soon as they heard the purpose of the senate, they published two judgments which had passed against Zeuxippus and the rest for sacrilege and for the murder of Brachyllas. They then, on receiving the

* He was not the Appius Claudius who is mentioned above (p. 237) as ambassador to the Achæians.

letters, sent ministers to Rome, to say that they could not annul a sentence legally pronounced; whereupon the senate wrote to the Achæians and Ætolians, to enforce the restoration of Zeuxippus. The Achæians did not resort to arms, but sent an embassy to persuade the Bœotians to consent, and also requested that, as they had restored the administration of justice between their own citizens, they should restore it likewise in cases touching the Achæians. They promised compliance, but afterwards neglected it. Upon this Philopœmen, being general of the Achæians, gave leave to all that had been injured by the Bœotians, to make forcible reprisals. An attempt being made to drive away some cattle from Bœotia, a skirmish took place, and war was all but commenced. The senate, however, did not repeat the demand that Zeuxippus should be recalled, and the Achæian reprisals having been stopped at the intercession of the Megarians, the war was prevented.

The good will of the Bœotians toward the Macedonian princes still continuing, induced them to form a new alliance with Perseus. This did not take place without some struggles, in the course of which many persons were driven into banishment. When Quintus Marcius and his colleagues came into Greece, these exiles flocked to them, throwing the blame of the alliance on Ismenias, a chief of the adverse party, and affirming that several of the Bœotian towns had been forced into it much against their will. Marcius declared that this should be tried, for he would secure to each the exercise of its own independent judgment. When he had made the truce with Perseus, he entered Bœotia. Ambassadors came from many of the towns, to submit their several communities to the pleasure of the Romans. All these he directed to follow him to Chalcis: and thither also came Ismenias from Thebes, to make a like surrender in the name of the whole Bœotian nation. The envoys from the towns were received with favour: for their errand suited the purpose of the commissioners, who were determined to break up the Bœotian confederacy. Ismenias was neglected and scornfully treated: and the party hatred of the exiles, encouraged by this, broke out in an attempt to stone him, from which he was only saved by taking refuge in the tribunal * of the Romans.

Meantime there was strife in Thebes. The men of Coroneia and Haliartus, who were devoted to Perseus, had gathered in the capital, and were earnestly supporting the Macedonian alliance. For some time the parties were equally matched: but at length the leader of the Coroneians changed his opinion, and then the tide set strongly towards submission to Rome. A fresh embassy was sent forthwith to Marcius, to excuse the alliance with Perseus. The multitude then proceeding to the house of Neon, the head of the Macedonian party, and to those of his principal followers, and angrily calling them to account for their acts, made them think it prudent to go into banishment. After this they returned to the place of assembly, where they voted high honours to the Romans, and sent ambassadors to surrender the city to them and recall the exiles.

The arrival of the Theban ministers at Chalcis interrupted a warm discussion, in which the exiles were passionately arraigning Ismenias, Neon, and their friends. Marcius commended the Theban people, and advised that the ambassadors should conduct the exiles home, and then that every city should send ministers to Rome, to make its own particular surrender. Neon escaped into Macedonia, but Ismenias and some others were thrown into prison, where they slew themselves. "Thus the Bœotian nation, after long preserving its union, and unexpectedly outliving many critical seasons, was broken up and resolved into its several states, through inconsiderate haste in leaguings with Perseus, and vain and childish timidity, in suddenly shrinking from him."—POLYBIUS.

Among the states whose support would be important to either party in the war, the Rhodians held a foremost place. At the end of the war with Antiochus, the Romans had bestowed upon them part of Lycia and Caria. But upon the arrival of the ten commissioners whom the senate appointed to settle the affairs of Asia, the Ilians interceded with them for the freedom of the Lycians. The name of Ilium had belonged to ancient Troy; and the town which now bore it had been built upon the territory of the fallen city. The intercession of its inhabitants carried weight as from the successors of the Trojans, from whom the Romans loved to think themselves descended: though the Ilians were really an Æolian colony, and in no wise of kin to the ancient occupiers of their territory. The

* Tribunal, a raised seat of a particular form, on which the Roman magistrates sat to administer justice.

Roman delegates, unwilling to disoblige either their pretended kinsmen or their valuable allies, gave a doubtful answer, which each understood as favourable to themselves. The Ilians sent to the Lycian cities, and said that they had procured them liberty: and the Lycians sent ambassadors to Rhodes to treat of alliance, when the Rhodians were appointing commissioners to settle the affairs of Lycia and Caria. The difference of intention did not immediately appear: but when the Lycians, being introduced into the assembly, began to speak of alliance, and the Rhodian chief magistrate plainly required their subjection, they declared that they would brave all dangers rather than do the bidding of the Rhodians.

A war ensued, in which the Lycians were reduced to submission. But before their subjugation they had sent an embassy to Rome, to complain of the harshness used by the Rhodians: and the senate chose ambassadors to tell the Rhodians that the Lycians had been assigned to them as friends and allies, and not as a free gift. Before the coming of the embassy the Rhodians had considered that they had settled the matter according to their wish: but now, on this fresh encouragement, they saw the Lycians again in commotion, and ready to hazard everything for independence. A suspicion arose that the Romans wished to waste their strength and treasure in unprofitable contests. The reign of Perseus was begun in Macedonia, and the new king had married the daughter of Seleucus king of Syria, the son and successor of Antiochus. The Rhodians had transported the bride into Macedonia, and had taken this occasion to make a trial and a display of their maritime strength, by accompanying her with all their navy magnificently equipped. This courtesy had been returned by Perseus with largesses to the rowers, and a supply of ship-timber to the state. There was nothing here with which the Romans could reasonably be offended: but yet it was thought that their jealousy might have been excited both by the display of power and wealth, and also by the proof of readiness to cultivate independent relations of friendship with others than themselves. Whatever might be surmised with respect to their intention, the Rhodians gave no sign of suspicion or anger. The arrangements with respect to Lycia stood unchanged, but ambassadors were sent to Rome to instruct the senate better in those points in which the Lycians had deceived

them; and there the matter rested, all further prosecution of it being interrupted by the breaking out of the Macedonian war. Ambassadors then were sent from Rome to exhort the Rhodians to fidelity: but they found on their arrival that exhortation was needless, for the people already, foreseeing the war, had refitted forty ships to be prepared for, the service of the Romans. This aid was afterwards offered to the Roman admiral in the Grecian seas, but was declined by him as unnecessary.

Letters were sent by Perseus to the Grecian states, with an account of his conference with Marcius, and those to Rhodes were accompanied by ambassadors. These requested of the Rhodians that they would be neutrals and peace-makers; "for this," they said, "was good for all, and becoming to the Rhodians, who, professing to value freedom of speech and to maintain the common liberty of Greece, ought especially to avoid being drawn into any action contrary to these objects." These arguments were not without effect upon the Rhodians, but their minds were still pre-occupied with attachment to Rome, in spite of some particular reasons for displeasure; and they declined doing aught to compromise her friendship. They expressed however, in other respects, great good will towards the ambassadors and their master.

Another Macedonian embassy was sent into Bœotia. The only cities where it could hope for success were Thebes, Haliartus, and Coroneia: it was repulsed at Thebes, but welcomed at the other two. Ambassadors then were sent to Perseus from Haliartus and Coroneia, to ask succour for those states which embraced his interest against the Thebans, who were troublesome neighbours to all that would not league themselves with Rome. The king replied that he could not then aid them, on account of the truce: but he advised them to defend themselves as well as they could against the Thebans, and to avoid giving occasion of hostility to the Romans.

The time of truce ran out; the Macedonian ambassadors were haughtily repulsed by the senate, and ordered to depart from Rome forthwith, and within thirty days from Italy; and the consul P. Licinius crossed the sea with his army. Perseus now assembled his forces for the war, to which they seemed not inadequate. Five-and-twenty years had passed since the peace with the

Romans: and during all that period the kingdom had been recruiting its population and resources, undisturbed by wars, excepting some trifling contests with the bordering nations, which had kept the soldiers in exercise. The army was numerous, disciplined and well appointed, and warlike stores and implements of every kind were abundantly provided. Thus prepared, Perseus advanced into Thessaly. Several of the smaller towns submitted at his approach, and Mylæ holding out was taken and sacked, after a desperate resistance. The king then fixed his head-quarters upon the roots of Ossa, and near the opening of the pass of Tempe; and from hence he sent out detachments to annoy and plunder the allies of Rome.

Meanwhile the consul advanced through Epirus and Athamania into Thessaly. His way was through a very difficult country, and if he had been attacked in emerging from it, while his men were yet fatigued and disordered, he might have been easily overthrown. But Perseus did not inherit the military talents of his father, and this opportunity was suffered to pass by. The consul advanced to Larissa, where he was joined by Eumenes with 4000 foot and 1000 horse, and by succours, mostly very scanty, from his Grecian allies. Perseus attempted to draw him to a distance from his camp, by sending troops to ravage the lands of Phæræ: but Licinius did not hazard the attempt to protect them. Encouraged by this, the king repeatedly approached the hostile camp, and offered battle. An engagement of cavalry took place, in which the Romans were defeated: and it was thought that their army might have been destroyed, if Perseus had followed up his success with an attack on their camp. So fully was their general convinced of his danger, that in the ensuing night he silently transported his forces to the farther bank of the river Peneus.

Perseus was now advised by many of his friends to offer peace on the same terms on which it had been made with his father. If it were accepted, the war would be honourably terminated with a victory, and the Romans would have received a lesson, which would make them less ready to encroach on the rights of the Macedonians: if it were refused, he would have gods and men to witness his moderation, and the obstinate pride of his enemies. The king agreed, and an embassy was sent. The

consul called a council of war, and all unanimously resolved that the answer should be as harsh as possible. "For this," Polybius observes, "is a custom peculiar to the Romans, to be haughty and obstinate in reverses, but moderate in success. That this is honourable, all will allow: but whether it be always practicable may be doubted." It is doubtless honourable to a state, when unjustly attacked, to suffer all things rather than compromise its character or its independence: but in a war of ambition, to sacrifice its armies, and perhaps to hazard its national existence, rather than confess a failure and retire from the contest without an extension of empire, has more of obstinate perverseness than of magnanimity. If the Roman principle were acted on universally, no war could end, except by the destruction of one of the parties: and for a state to propound one rule of honour for itself and another for all with whom it comes into contact, is a common insult to mankind. The boast of moderation in success is of a better kind, though the claim of the Romans to it may well be disputed. It is true that they often granted terms far easier than those which they might probably have enforced; but it is no less true that those terms were frequently ill kept, and that peace was the beginning of systematic encroachment on the rights of the vanquished people: and in all such cases, the apparent liberality can have been little better than crooked policy or vain ostentation. This at least is an inference which we may reasonably draw with respect to the general conduct of a people, among whom such instances are continually recurring: though exceptions be sometimes to be made in favour of an individual commander, and even in favour of the nation itself, to the extent of a real, though transitory good intention, at the moment of contracting some particular engagement.

The message of Perseus was answered by a demand that he should surrender himself and his kingdom to the disposal of the senate. This insolence filled his counsellors with resentment; and they advised him to negotiate no more. But he was the more alarmed by the apparent confidence of his enemies: and he continued to tempt them with higher offers, till he was at length induced by repeated failure, and by the indignation of his friends, to desist.

The Roman arms were more successful

in Bœotia. The prætor Caius Lucretius, who had been sent with a fleet into the Grecian seas shortly before the setting out of the consul, had landed his forces and besieged Haliartus. The townsmen defended themselves with determined resolution, but with inadequate resources: the place was stormed, and all the inhabitants were either slaughtered or sold for slaves. The pictures, statues, and other valuable spoils having been carried to the ships, the city was rased to its foundations; and the Romans then, if the copies of Livy are correct, proceeded to Thebes. If so, there must have been some fresh revolt of the Thebans not mentioned by the historian. The people submitted at the approach of the prætor, who made over the city to the exiles and other friends of Rome, and sold the slaves and all the effects of the Macedonian party. He then returned to his ships.

Perseus attempted unsuccessfully to fire the encampment of the Romans. A few days after he led out a party to cut off their foragers and surprise an outpost. In this he partly succeeded: but the soldiers of the outpost having formed upon a hill, defended themselves, though with difficulty, till aid arrived from the camp; and then the king was over-matched and obliged to retire, with some loss and with great hazard. This action partly restored the confidence of the Romans. It was the last of the season, for the king immediately went into winter quarters in Macedonia, and the consul soon after in Bœotia.

The next year's transactions are imperfectly recorded; but they seem to have extended the influence of Perseus in Greece, an end that was much promoted by the cruelty and avarice of the Roman commanders, especially the consul Licinius, and the prætors, Lucretius and his successor Hortensius. The last demanded from the people of Abdera a large supply of corn and money; they asked him for time to send to the then consul Aulus Hostilius, and to Rome; but scarcely had their envoys reached the consul, when they heard that Hortensius had taken their city, beheaded the chiefs, and sold the other inhabitants. The senate ordered that all who had been sold should be sought out and released. The Chalcidians complained of both the prætors: and the urgency of their necessity was testified by the appearance of Miction as their principal ambassador, who had come to Rome

for that purpose, though he was disabled in all his limbs, and was obliged to be carried into the senate house in a litter. He declared that to shut the gates against Lucretius and Hortensius was safer than to admit them: for those towns were for the most part unharmed, which had excluded them; while at Chalcis, where they had been received, all the temples were pillaged. Lucretius had freighted his ships with the spoils of sacrilege, and had carried freemen into slavery: and both he and Hortensius had quartered their seamen summer and winter in the houses of the citizens, and exposed their wives and children to the insolence of rude and profligate men, who cared not what they said or did. The senate sent orders to Hortensius to redress as far as possible, and not to repeat the wrongs complained of: and Lucretius being accused before the assembly of the commons, was condemned by all the tribes, and heavily fined.

These outrages were imputable to particular magistrates, and not to the state, which condemned and punished them: there were other faults on which a different verdict must be given. Such was the disposition, already seen in the case of Callicrates and the Achæians, to favour those who flattered Rome by betraying the liberty of their country, and to encourage their slanders against better men than themselves. Of this subservient crew was the Ætolian Lyciscus, on whose evidence Eupolemus, Nicander, and others of his countrymen, were transported to Rome, under a frivolous charge of treacherously causing the defeat of the Roman cavalry by Perseus. Another was the Epirot Charops. He set all engines to work against Antinous and Cephalus, the men most respected in his nation, who had earnestly wished that peace might continue, but who, since it was broken, advised the people to do their duty faithfully as allies of Rome, but without unbecoming subserviency, or forwardness beyond their covenant. Whatever they did in any wise contrary to the wishes of the Romans, Charops imputed to infidelity. At first they despised the slander: but when they saw the credit given by the Romans to like accusations made by Lyciscus, they foresaw that they too might be summoned to Rome without a trial. They were thus induced for their own safety really to entertain the purpose of revolt: and by this and similar conduct, ~~as~~

Polybius observes on another occasion, the Romans became rich in flatterers, but poor in true friends. In the present instance the defection of Cephalus carried with it that of Epirus.

Early in the following year Hostilius, from his winter quarters in Thessaly, sent Caius Popillius and Cnæus Octavius to visit the states of Greece. They carried with them a decree of the senate, that none of the allies should be required to furnish any supplies to the Roman officers, unless the demand had been sanctioned by the senate. They vaunted the kindness of the decree in each city of Peloponnesus, and went on to say that they knew the men who were not hearty in the cause of Rome, and to express as much displeasure towards them as towards their avowed opponents. It was believed that they meant to accuse Lycortas, his son Polybius, and Archon, in the great council of the Achæians; but failing to find any decent pretext for so doing, when the assembly met, they only addressed to it some words of compliment and exhortation, and then went into Ætolia.

Their object here was to take hostages from the nation, and it was supported by Lyciscus. The Romans, he said, had done well in removing the chief conspirators against them, meaning Eupolemus and Nicander; but these had left accomplices, who ought to be similarly treated, unless they gave their children as pledges for good behaviour. The persons chiefly hinted at were Archidamus and Pantaleon, the latter of whom being with Eumenes, when the attempt to murder him was made, was the only one who had courage to stand by him and defend him. Pantaleon rising, shortly rebuked the sycophancy of Lyciscus, and then turned to Thoas, whom he deemed his more accredited calumniator, from the absence of known enmity between them. He called to his mind the war of Antiochus, which he had kindled against the people whom he now unworthily flattered. He reproached him with ingratitude towards Nicander and himself, who, when he was given up to the Romans by treaty, had gone as ambassadors to Rome, and obtained his pardon. The indignation of the crowd broke out against Thoas: they would not hear him speak, and began to pelt him. It was now no time to talk of hostages, and after slightly reproving them for pelting Thoas, the Romans departed.

They went next into Acarnania, where they were advised by their warmest partisans to put garrisons into the towns, and so to guard against the attempts of the Macedonian faction. The independent party protested against this, as the treatment due to conquered enemies, and not to allies who had committed no offence. It was manifest that the popular opinion went with the latter speakers; wherefore the ambassadors thought it most prudent to agree with them, and after expressing themselves to that effect, they returned to Hostilius at Larissa.

These transactions caused the Achæian leaders to deliberate on the line of conduct fittest for the times. Lycortas maintained, as he had done from the beginning, that they should not aid either Perseus or the Romans: for the power of the victor would certainly be too great for the freedom of Greece, and it therefore was not the part of a patriot to concur in building it up. At the same time he advised them not to thwart the Romans, for that would be too dangerous, especially to those whose independent conduct made many powerful enemies among them. Apollonidas dissuaded direct opposition to Rome, but said that they should fearlessly check and censure those domestic traitors, who courted the Romans by sacrificing the liberties, laws, and common interests of the state. But the majority fell in with Archon, who recommended that they should yield to the times, and carefully avoid giving to their enemies any handle for slander, lest they should suffer the lot of Nicander and his fellows. It was agreed that Archon should be proposed for chief magistrate, and Polybius for general of the cavalry; and they were elected accordingly.

Perseus, secure at present against attack from the Romans, since the intervening mountains were impassable by reason of the snows, resolved to break the strength of the neighbouring Illyrians, lest they should ravage his borders when he was occupied elsewhere. This was not all: he had long sought the alliance of Gentius, who ruled over most of Illyria; and this display of power, he thought, might determine that prince to join him. His arms were every where prosperous: but Gentius answered his ambassadors that he was too poor to go to war with Rome, unless he received a large supply of money. This the Macedonian refused to furnish: and although he continued to solicit

Gentius by repeated embassies, he could not overcome his own habitually penurious disposition so far as to consent to the only terms on which the Illyrian could be induced to aid him.

Spring came; Hostilius gave up his command to the new consul Q. Marcius, and with it an army which he had weaned from great disorder and licentiousness, and trained to vigilance, obedience, and inoffensive conduct in quarters. Marcius advanced into Macedonia, over heights which seemed insurmountable to an army. An active enemy might have ruined him: but Perseus let him pass with slight opposition, and then in blind terror retired to Pydna, leaving open the rich city of Dium, with the strong defile which it commanded, the only passage for the Romans from the narrow plain under the mountains into the open country of Macedonia. The consul took possession of Dium, and advanced a little beyond it: but finding it difficult to supply his army at a distance from Thessaly, he soon retired within the pass, and suffered Perseus to reoccupy the city. The summer was spent in attempts on various places by the consul, and by the co-operating fleet of the Romans and of Eumenes. The towns were well defended by the Macedonians, and commonly with success; and the army went into winter quarters, after a campaign in which little had been won, except an entrance into Macedonia.

The Achaians had decreed, at the suggestion of Archon, that they would aid the Romans with all their forces. Polybius and others being sent to the consul to signify their resolution, arrived when he was about to cross the mountains, and shared in the dangers of the passage. They then declared their errand to Marcius, who thanked the Achaians for their good will, but said that he had no present need of putting them to such expense and inconvenience. The ambassadors returned to Achaia, all except Polybius, who continued with the army; till the consul, hearing that Appius Centho, who was then commanding a body of troops in Epirus, had asked five thousand soldiers of the Achaians to assist his operations, sent Polybius back to frustrate his request, declaring that there was no necessity for the reinforcement, and that the Achaians ought not to be burdened with it. Whether this was done for the sake of the Achaians, or in jealousy of Appius, Polybius considered as very

doubtful. However, he undertook the commission, and was placed by it in some perplexity. He had no written instructions from Marcius to bear him out, and without them he felt it dangerous to oppose the wishes of Appius. He made use, however, of the decree of the senate, which relieved the allies from compliance with any demands of its officers, not authorized by itself. He procured a vote that the matter should be referred to the consul; and by this he saved the nation from a heavy expense, but gave great offence to Appius.

Perseus continued his endeavours to engage the Rhodians in his cause, and the city was full of contention between his favourers and those of Rome. When the decree of the senate arrived there, which relieved the allies from obedience to the unauthorized commands of the Roman officers, this act was kindly taken by the multitude: and the leaders friendly to Rome, availing themselves gladly of the existing impression, persuaded them to send ambassadors to the senate, to the consul, and to the prætor who commanded the fleet. The ambassadors to Rome were instructed to ask permission for a purchase of corn in Sicily; and all had orders to defend their commonwealth against the charge of disaffection, and to renew all its engagements of friendship. Each of these missions was favourably received. The consul, moreover, privately conferred with the leader of the embassy sent to him, and wondered that the Rhodians did not endeavour to make peace between Perseus and the Romans. His purpose in this is not ascertained. A war had broken out between Ptolemy Philometor, king of Egypt, and Antiochus Epiphanes, king of Syria, on account of Cœlesyria, which the former Antiochus, the present king's father, had wrested from Egypt. The consul may perhaps have feared the power of the Syrian, should he be enabled to conquer Egypt while the Romans were engaged with Perseus: he may have wished to stimulate the Rhodians to do something which the Romans might consider as a pretext for attacking their independence, when the Macedonian war should be ended. Polybius thought that the latter motive was the true one; he certainly deemed such crooked policy not inconsistent with the consul's character, and we shall hereafter find that the event at least corresponded with such a suspicion.

The return of the ambassadors filled all parties with joy. Some exulted in the friendship of the Romans, others in their weakness, which they thought to be proved by their unusual earnestness in demonstrations of good will, and especially by the suggestion that the Rhodians should mediate between Perseus and the Romans. The people were easily persuaded to undertake the mediation of peace. They voted an embassy to each of the belligerents, to declare that they could no longer endure the evils arising from the war, and that if either party refused to put an end to it on equitable terms, the Rhodians would consider what was to be done against him. Such a message was little fitted to conciliate the haughty spirit of the Romans. The bearers of it were roughly answered, and they parted from the senate in mutual anger.

Perseus had at length concluded an alliance with Gentius, under the condition of giving him three hundred talents. He defrauded him, however: for when he had paid but ten talents, the Illyrian was induced to offend the Romans irretrievably by imprisoning their ambassadors, and Perseus then withheld the rest of the money. The two monarchs jointly sent an embassy to Rhodes, to engage that state as far as possible in their cause: and the hopes of their partisans were supported by the success of a fleet sent by Perseus to the coast of Asia, which dispersed a squadron of transports belonging to Eumenes, and slew or made prisoners a thousand Gallic horse*, whom that prince had dispatched as a reinforcement to the Pergamenian troops, that were acting under his brother Attalus as auxiliaries to the Roman army. The Rhodians received the embassy with favour, again declared that they would make peace, and exhorted the two kings to throw no obstacles in the way. While these things were passing, the new consul Lucius Æmilius-Paullus arrived in Macedonia: and the prætor, L. Anicius, entering Illyria, soon put an end to all the hopes which had rested on Gentius, by reducing him within thirty days to surrender his kingdom and himself.

The consul Æmilius was a warrior of tried ability. His coming filled his soldiers with confidence and his enemies with alarm, both of which were increased

by the result of the Illyrian war. Still his task was not an easy one, for he had before him a gallant army, in a strong and a carefully fortified position on the rugged banks of the Enipeus. Some skirmishes took place in the bed of the river, rather to the advantage of the Macedonians: but in the mean time a detachment sent by Æmilius had opened a passage over Mount Olympus, and surprised and cut to pieces the Macedonian guard. The king now quitted his position, and hastily retreated to Pydna: the consul followed, and found him ready for battle, and drawn up on ground which favoured the action of the phalanx. Both armies were eager to fight, but they were restrained by the caution of their leaders, who wished to receive rather than to make the attack. Late on the second day an accident brought on the engagement. At first the power of the phalanx bore down every thing that opposed it: but it could not long preserve the perfection of its array, and the Romans, penetrating between the pikes wherever an opening was given, disordered and finally defeated it. In the battle itself, and in the butchery which followed it, 20,000 Macedonians are said to have been slain. (B. C. 169.)

An eclipse of the moon had taken place on the eve of the battle. Such appearances were then superstitiously believed to be ominous of ill to states and kingdoms. C. Sulpicius Gallus, a Roman officer, had science enough to know their nature and foretell their occurrence: and he, lest the soldiers should be disheartened by the eclipse, called them together, declared that it would happen, and explained its cause. This changed the fear, which might otherwise have arisen, into wonder at the knowledge of Gallus: while in the Macedonian camp the appearance was apprehended by many to portend the extinction of the kingdom. This feeling, however, does not appear to have prevailed to such a degree as materially to diminish their readiness for battle.

Within a few days after the victory, all Macedonia submitted to the consul. That this should have been the effect of a single battle, seems to mark that the monarch was generally unpopular, and may add some credit to the crimes and weaknesses here recorded of Perseus, and to the many others which are imputed to him by the Roman historians. His fate was a wretched one. After many

* Probably for Galatia in Asia.

wanderings, he was obliged to put himself into the hands of Æmilius. He entered the camp in a mourning habit, and would have thrown himself at his conqueror's feet. The consul made him sit down, and then asked on what provocation he had so violently attacked the Roman people, which had faithfully kept its treaty with his father. The boast was as false as the insult was ungenerous: but a bolder man than Perseus might have been deterred from reply. Æmilius then, if Livy is to be trusted, declared, that the often tried clemency of the Roman people gave to the conquered monarch almost an assurance of safety. After this he carried him to Rome, and exhibited him to all the people as a captive in his triumph. That brutal ceremony commonly finished with the death of the prisoners who were led in it. Perseus was not executed: but he was thrown into prison, where his life was shortened, according to some by his own despair, according to others by the cruelty of his treatment.

While these things passed in Greece and Macedonia, some important events took place in Egypt. Antiochus had overrun that country, and obliged the king to shut himself up in Alexandria. There were several Grecian embassies at the court of Ptolemy, from the Achæians, Athenians, and other states; and these he sent to Antiochus to plead in his behalf. The Syrian received them kindly, heard and replied to their arguments, and promised to give his final answer upon the return of an embassy which he had sent to Ptolemy: for he wished, he said, that the Greeks should be witnesses of all his proceedings. Whatever may have been the further progress of the negotiation, it did not lead to peace: on the contrary, the Egyptian monarch ventured a battle, was defeated, and taken. Hereupon the Alexandrians declared his younger brother king, who also bore the name of Ptolemy, according to the custom of the Macedonian princes of Egypt, but was distinguished by the addition of Physcon.

Antiochus made peace with his prisoner, and carried on the war against the Egyptians under pretence of reinstating their rightful monarch. He won a victory at sea, took the strong city of Pelusium, at one of the mouths of the Nile, and laid siege to Alexandria. A Rhodian embassy arriving to mediate,

received for answer, that Antiochus was fully determined to restore the diadem to its proper wearer. Finding, however, that there was little hope of speedy success against Alexandria, he resolved to leave the brothers to fight it out, expecting that, when they had weakened each other, the victor would fall an easy prey. He established Ptolemy Philometor as king in the ancient capital of Memphis, and gave up to him all Egypt, except Pelusium, where he kept a garrison, that he might be sure of a ready entrance into the kingdom which he pretended to restore. But Ptolemy, well aware of his protector's insincerity, straightway opened a negotiation with his brother, which, by the common apprehensions of both, and the good offices of their sister Cleopatra, was soon brought to a conclusion. It was agreed that both should reign conjointly, and the elder Ptolemy was re-admitted into Alexandria. But Antiochus, instead of rejoicing that the end was attained, for which alone he professed to war, now prepared for fiercer hostilities against the two. He sent a fleet to Cyprus, and himself proceeded towards Egypt. On his march he was met by ambassadors, who thanked him, in the name of Ptolemy Philometor, for his recovered inheritance, and prayed him not to cancel his bounty, but rather to speak his wishes as a friend, than proceed by violence as an enemy. Antiochus answered, that he would not cease from war, unless Cyprus, and Pelusium, with the country round it, were yielded to him. These demands were not complied with, and he advanced into Egypt.

The Achæians were bound to the house of the Ptolemies by alliance, by old friendship, and by benefits received. These princes in their present difficulties had asked them for a thousand foot and two hundred horse, with Lycortas as leader, and Polybius to command the cavalry. Callicrates and Diophanes opposed the grant, on the ground that the consul Marcius was wintering in Macedonia, and the decision of the war was now at hand, and therefore the Achæians should keep in readiness, in case the Romans should want their help. To this it was replied, that Marcius, a year before, had declined their offered aid as unnecessary. It therefore appeared, said the friends of Lycortas, that the mention of the Romans was a mere pretence for persuading the Achæians to desert their benefactors in their utmost need, in con-

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ttempt of obligations imposed by gratitude, and bound upon them by the faith of treaties and the sanctity of oaths. The voice of the multitude was loudly in favour of sending the succour required: but Callicrates procured the adjournment of the question, by alleging that a meeting, such as was then convened, was not legally competent to decide upon it. At the next meeting, which was a more general one, it was again brought forward. Lycortas and Polybius again proposed the sending troops: Callicrates, the sending ambassadors to mediate. The sense of the people was manifestly with Lycortas; but Callicrates carried his point by means of a letter from Marcius, recommending his proposal.

Fortunately for the Ptolemies, a more powerful mediation came into play. Before the reconciliation of the brothers, while Physcon and his sister were besieged by Antiochus, they had prevailed on the Romans to interfere in their favour. One embassy had been sent, which effected nothing: but a second followed, headed by C. Popillius, and bearing an express requisition on the part of the senate, that all prosecution of the war should be forthwith given up. The conquest of Macedonia had now been completed, and the increase of power thence resulting to the Romans was more than matched by the increase of their pride. Antiochus, after compelling the rest of Egypt to submission, was on his march towards Alexandria, when Popillius met him within four miles of the city. The king saluted him, and offered his hand; the ambassador bid him first read the decree of the senate. He read it, and said he would take counsel with his friends: Popillius drew a circle round him with his stick, and required his answer before he stepped beyond it. Antiochus hesitated a while, and then said he would obey: whereupon the Roman took his hand, and hailed him as a friend. Antiochus withdrew his troops from Egypt, according to the mandate of the senate: and the ambassador, after visiting the Ptolemies in Alexandria, went to Cyprus, which the Syrian generals had well nigh conquered, but were now obliged to abandon.

Of Greece, from the Conquest of Macedonia to the Conquest of Achaia, by the Romans.

WHEN the senate heard of the defeat of Perseus, they sent for the Rhodian ambassadors, who had not quitted Rome. Polybius seems to intimate that they had not before been admitted to a hearing; but this is not expressed with precision enough to warrant us in setting aside the positive assertion of Livy. They said that their commonwealth had sent them to mediate a peace, considering the war as burdensome to the Greeks and chargeable to the Romans; but now that it was ended as the Rhodians most wished, they shared in the joy of their friends. The senate replied that it well knew the Rhodians to have acted neither from good will to Greece nor to Rome, but merely from the wish to rescue Perseus from his fate; and that therefore they must not expect the language nor the treatment due to friends.

This repulse was hardly needed to increase the terror which had already driven the Rhodians to acts unworthy of themselves. The master-work of tyranny is to make its victims accomplices in their own degradation, and thus to render unmerited suffering no longer respectable. We may better bear to see a gallant struggle unsuccessfully maintained, for the pity due to suffering is absorbed in the higher sympathy with moral greatness. But to see a brave, a wise, a once free-spirited people, reduced to kiss the foot that spurns them without cause, and by tame, and even by criminal submissions, to sue for pardon where no wrong has been committed, this is indeed a painful spectacle, and not more painful than humiliating. The Rhodians hearing that C. Popillius was passing near their island on his way to the king of Syria, sent a deputation that with difficulty persuaded him to visit them. He came, but only to increase their fears and exaggerate their offences. His colleague Decimius, says Livy, spoke more moderately. He advised the Rhodians to save themselves from punishment, by turning it on the heads of their evil counsellors. Accordingly they voted death to all who had ever spoken in favour of Perseus or against the Romans. Some had al-

ready escaped, others slew themselves, but the decree was executed against the rest. Such was the mild atonement exacted for a few haughty words and suspected wishes, by those same tender-hearted Romans, who had been so much shocked, as we may remember, at the cruelty of the Achæians, in putting to death some principal Lacedæmonians for a flagrant breach of treaty and a massacre.

Even after this propitiation the senate would hardly listen to the ambassadors whom the Rhodians sent to plead for their pardon. The temper of the leading men was generally unfriendly, and one of the prætors went so far as publicly to harangue the people, and exhort them to war. The ambassadors put on mourning attire, and besought forgiveness with prayers and tears; but the greatest favour which they could obtain was an answer relieving them from the apprehension of war, but bitterly reproaching their several delinquencies, and declaring that but for a few tried friends of Rome, especially the ambassadors themselves, the senate well knew how they ought to be treated. On receiving the answer, the Rhodians voted to the senate a present of ten thousand gold pieces in the form of a crown, and sued to be admitted into confederacy, which they had hitherto avoided. For the Rhodians, trusting in their strength, like the ancient Corcyræans, had ever declined such engagements as could entangle them against their will in the quarrels of others, or prevent them from assisting any state when they saw cause. They were now reduced to beg for that which they would not formerly have accepted; but that a decree might not exist among their records to shame them if they were refused, the mission was entrusted to their admiral, as the only person legally empowered to engage in any negotiation without being authorized by a popular vote. A year or more passed before their request was granted. During the interval, the senate decreed the independence of those Lycians and Carians whom it had consigned to the Rhodians after the conquest of Antiochus.

If the Romans were unjust and cruel towards the Rhodians, it is yet to be seen whether their conduct in Greece deserves a more favourable report. After the conquest of Illyria, Anicius led his forces into Epirus. Four towns alone held out against him, under An-

tinous, Cephalus, and other leaders in the revolt: but these, soon feeling the hopelessness of resistance, threw themselves on the Roman outposts and died fighting; and the towns then opened their gates. Æmilius meantime, while he waited for the ten commissioners appointed to assist him in settling the affairs of the province, was travelling through Greece to visit its most remarkable places, carefully avoiding to inquire into the past conduct of the inhabitants. In returning he was met by a crowd of Ætolians in mourning raiment, who complained that Lyciscus and Tisippus, the heads of the Roman party, after surrounding the national congress with a body of soldiers obtained from Aulus Bæbius, a Roman officer, had slaughtered five hundred and fifty of the leading men, driven others into banishment, and distributed to their followers the goods of the slain and the exiles. The proconsul bid them follow him to Amphipolis, where he was to appear on a stated day with the commissioners, in order to settle the government of Macedonia. On the appointed day, his tribunal being set forth, he appeared in state with his ten assistants, and published the decree of the senate to the anxious multitude. He declared that all the Macedonians should be free, should enjoy their cities, lands, and laws, and annually elect their magistrates; that they should pay to Rome but half the tribute they had paid to the king; but that their country should be parcelled into four cantons, having separate capitals, separate magistrates and congresses, and that no one should marry, or purchase lands or houses out of his canton.

After this he called in the Ætolians; but his inquiries were directed to determine, not who had done the wrong, or who had suffered it, but who had favoured or opposed the Romans in the war. He acquitted the murderers, confirmed them in power, and ratified their sentences of exile and confiscation: and only condemned Bæbius for lending Roman soldiers as agents of massacre. This iniquitous decision gave new confidence to the servile tools of Rome in every state: the patriots generally gave way to the season, and the betrayers of their country were appointed without opposition to all magistracies and public missions. Callicrates, Charops, Lyciscus, and the rest, flocked in to Æmilius in Macedonia; they died

with each other in slandering their more honest fellow-citizens; and all whom it pleased them to accuse as secret enemies of Rome, were demanded by the proconsul, and sent to Italy to answer for their conduct.

With the Achaians only the commissioners went to work more indirectly; for they feared lest they should refuse compliance, and perhaps put Callicrates and his fellow traitors to death. Besides, in examining the writings taken from Perseus, they found no letters from any Achaian. However, they selected two of their number as ambassadors to the Achaians. These declared that some of the leaders of the nation had assisted Perseus both with money and otherwise, required a vote condemning them to death, and said that when this was passed they would state their names. The assembly cried out against the injustice of the proposal, and demanded that the men should be named and tried before they were sentenced: whereupon the Romans answered, by the advice of Callicrates, that all who had recently been generals of the Achaians were involved in the charge. This called up Xenon, a man of high consideration: "I," he said, "have lately been general, but I know myself guiltless towards the Romans, and am ready to answer for my conduct either here or at Rome." The ambassadors caught at the unguarded expression, and demanded that all who were accused should be examined before the senate. Under this pretence they sent to Rome all those whom Callicrates pointed out, in number above a thousand. The senate without hearing them placed them under guard in different cities of Etruria. To an embassy sent by the Achaians to request that the men might be either brought to trial at Rome, or sent back to be tried in their own country, the senate affected to consider them as already condemned by their fellow-citizens. Driven out of this subterfuge by a second embassy, which fully stated the true features of the case, the senate answered that they deemed it not for the good of Achaia that those men should return. Many embassies were sent with no better success. At length, after seventeen years, when scarce three hundred of them were left, the rest having died in prison, or suffered death for attempting to escape, the survivors, among whom was Polybius, were allowed to return.

Such was the treatment vouchsafed by Rome to men, whose sole offence was fidelity to their country; and such the paltry trickery by which her oppressions were facilitated.

Æmilius again assembling the Macedonians bade them chuse their council of state, and then published a list of Macedonian chiefs, whom he required to go into Italy with their grown-up children. This, Livy says, though apparently harsh, was really a safeguard to the general liberty against men accustomed to obey the king, and domineer over his subjects. It is far more probable that they were dreaded, not as oppressors, but as leaders, who might unite their countrymen against oppression: especially since the ordinary Macedonian government, though irregular, was far from being despotic. Æmilius gave out a code of laws for the province, of which the Roman historian speaks with high commendation. Lastly, he set forth a splendid feast from the spoils of Macedonia, and then went out from the bosom of rejoicing to do a deed, perhaps the foulest in the black and bloody chronicles of Roman conquest.

The fear of oppression, we may remember, had driven most of the Epirots to revolt; but they do not seem to have been active in the war. All however whom it pleased the Romans to accuse of any disaffection towards them, had already been arrested and sent into Italy. Nevertheless the senate, to gratify the soldiers without diminishing the Macedonian treasure, had resolved to give up all the cities of Epirus to pillage that had shewn any favour to Perseus. Æmilius being ordered to execute the decree sent officers to each, who professed that they were come to withdraw the garrisons, so that the Epirots might be free like the Macedonians. He summoned ten chiefs from every place, and charged them to deliver up the gold and silver in their towns. Troops were sent to the devoted cities, and their departures were so arranged that all might arrive on the same day at their several destinations. The commanding officers had secret orders what to do. On the appointed morning the treasure was collected, and then the signal for plunder was given. Each city was stripped of everything valuable, its walls were demolished, and its inhabitants made slaves. In one day seventy towns were ruined, and 150,000 persons sold into bondage. This was done in time

of peace, for a slight offence, and one for which the sufferers had been taught to believe that their excuses were accepted: yet the body which commanded it was wont to boast itself the only power on earth which never failed in faith, justice, or humanity; and the agent in the villainy esteemed himself, was esteemed by his countrymen, has been registered by annalists, and commemorated by orators, as a spotless pattern of integrity. Contempt of riches was among the virtues which the Romans vaunted as peculiarly their own. Their officers were commonly proof against personal corruption to a degree that surprised the Greeks; and Æmilius himself, after larger revenues had passed through his hands than through those of any former Roman general, was obliged to sell a part of his lands for the purpose of procuring ready money. Yet the only motive to the desolation of Epirus was the wish to avoid diminishing a vast treasure newly won. How can these things be explained? By that disposition, everywhere too common, which prevailed at Rome to a more than usual extent, to make national interest the measure of justice, and national partiality that of truth: by the unexamining self-idolatry, which looks inward only for matter of praise, and is therefore really unconscious of impurities and inconsistencies, because it has never sought to find them out: by that wilful blindness and rooted unfairness of a mind, severe in its judgment of others, but unboundedly indulgent to itself, which are the sins especially pointed at in the words, that "the heart of man is deceitful above all things, and desperately wicked."

The Roman generals now sailed for Italy, leaving Charops all powerful among the remaining inhabitants of Epirus. He quickly gathered about him a crew of plunderers and ruffians, and partly by their aid, and partly by the fear of Rome, he overbore all opposition. His enmity and his avarice alike required to be satiated by bloodshed. Men were slain in the public market or in their houses; others were waylaid and assassinated in the fields and highways; and confiscation ever followed on the heels of murder. The threat of banishment was another engine of extortion from the wealthy,—women as well as men. By this, Charops drew as much as he could from the principal persons in the city of Phœnice; and then, after receiving the

price of forbearance, he nevertheless commenced the threatened prosecution. The charge he made was of enmity to the Romans; and partly by persuasion, partly by fear, he prevailed on the people to doom the accused—not to exile—but to death. They fled to avoid the execution of the sentence, and Charops went to Rome to get his act confirmed by the senate. Here he was disappointed. Æmilius Paullus, though he had not refused to execute the worst decrees of his employers, had yet virtue enough to be displeased with the encouragement given to flatterers and false accusers. He marked his opinion of Charops, by refusing him admission into his house: and his judgment, thus expressed, prevailed with the senate to withhold their approbation of the proceedings that had taken place. They declared that they would send commissioners to inquire into the matter; but Charops suppressed the real answer, and forged one according to his wishes. He died soon after, probably on his return, for the place of his decease was Brundisium in Italy, the port from which the passage into Greece was commonly begun. Epirus thus was freed from an intolerable tyranny; and about the same time Ætolia was no less fortunate in the death of Lyciscus. These deaths took place in the eleventh year after the defeat of Perseus.

We must return to the affairs of Peloponnesus. The reward of the Achæians for their unflinching fidelity as allies of Rome, was that, as soon as the Romans were strong enough to dispense with their voluntary services, they strove to weaken them as much as possible, that they might be the less able to withstand oppression. Three years after the return of Æmilius to Italy, C. Sulpicius Gallus was sent into Greece, and instructed to sever as many cities as possible from the Achæian league. Among those inclined to abandon the league was the Ætolian town of Pleuron; and Gallus, according to his orders, supported its defection. What other success his mission may have had does not appear.

The Athenians were now in the deepest poverty: for they had been chief sufferers in the Macedonian war, and they had few resources for the recovery of their loss. Driven to extremity by want, they plundered their subjects of Oropus. The Oropians complained to Rome; and the senate, judging that they had suffered

wrong, commissioned the Sicyonians to lay a suitable fine upon the Athenians. The arbiters fined them six hundred talents; but the senate remitted all but one hundred. The Athenians, however, did not pay even this, but prevailed on the Oropians, by promises and gifts, to be reconciled to them, to receive an Athenian garrison into their town, and to give hostages to the Athenians, on condition that, if further wrong were done to the Oropians, the garrison should be withdrawn and the hostages restored.

Misconduct taking place on the part of the garrison, the Athenians were called on to evacuate the place. They denied the obligation; for their community, they said, was not to blame, and they were ready to punish the offending individuals. The Oropians carried their injuries to the Achæians; but they, through friendship to Athens, were loth to act against her. The complainants applied to Menalcidas the Lacedæmonian, who was general of the league, and promised him a gift of ten talents, if he would prevail on his people to assist them. He offered half the bribe to Callicrates, and thereby secured his support: and by their joint influence the Achæians were induced to undertake the cause of the Oropians. As soon as this was known to the Athenians they withdrew their garrison from Oropus, having first plundered the inhabitants of every thing worth taking which they had spared before. The Achæians having come too late to save the Oropians from this mischief, Menalcidas and Callicrates urged them to avenge it, by invading Attica: but this proposal was vehemently opposed, and the army finally broke up.

Menalcidas had not earned his money, but he did not fail to exact it. He then began to grudge Callicrates his share, and after putting him off with excuses for a time, he ended with plainly refusing payment. Callicrates revenged himself by a capital charge against Menalcidas, as having gone to Rome on embassies against the Achæians, and done his utmost to sever Lacedæmon from their confederacy. Menalcidas was now in the utmost danger; but he gave three talents to Diæus of Megalopolis, who succeeded him as general; and Diæus exerted himself with such effect that he saved him. How this was done is not recorded, but it seems to have been by some illegal stretch of power; and Diæus, finding that he was generally

condemned, thought it advisable to seek some topic of engrossing interest, which might divert the people from inquiry into his demerits.

There was some land upon the borders of Argolis and Laconia which had been claimed from ancient times as belonging to each. The dispute had been lately brought before the great council of the Achæians; but the Lacedæmonians had appealed from their decision to the Roman senate. That body answered that they must abide by the decision of the congress, except in questions of life and death: but Diæus, in reporting this answer to the Achæians, omitted the exception. The Achæians claimed authority in matters touching life, as well as in all other; the Lacedæmonians charged Diæus with falsehood, and again appealed to Rome: whereupon the Achæians quoted the law, that forbade each single state of the league to negotiate without the sanction of the rest. The quarrel broke out into a war. But the Lacedæmonians, knowing themselves the weaker party, began to treat with the Achæians and their general; and Diæus said he warred not with Lacedæmon, but with certain men who disturbed her quiet. Being asked to name them, he pitched on four-and-twenty men, the principal in Sparta. Agasisthenes, a leading Lacedæmonian, advised the accused, instead of staying and involving their country in war, to go to Rome, and trust to the Romans for their restoration. They departed accordingly, and were capitally condemned by the Lacedæmonians in their absence. Callicrates and Diæus, were sent by the Achæians as ambassadors to Rome; Callicrates died upon the way, but Diæus came before the senate; and vehement altercation ensued between him and Menalcidas, as the spokesman of the exiles. The senate answered, that it would send commissioners to judge between the contending states: but while the commissioners were journeying at their leisure, both Diæus and Menalcidas returned in haste to Peloponnesus, and each reported to his own community that judgment was given in its favour. Thus fed with false hopes by their respective ambassadors, the Achæians and Lacedæmonians both prepared for war.

About a year before, Macedonia had revolted from the Romans, under one Andrisus, a man of low birth, who pretended to be a son of Perseus. He had invaded Thessaly, but had been

repulsed by the Roman prætor Scipio Nasica, assisted by the Achæians and some other Greeks. Juventius Thalna, who succeeded Nasica, was defeated and killed, in an attempt to enter Macedonia: and about the time of which we have just been speaking, his place was filled by Q. Cæcilius Metellus. The latter sent to charge the Achæians that, instead of going to war with Lacedæmon, they should await the coming of the Roman commissioners. His messengers found the Achæian forces already entered into Laconia. Notwithstanding the mandates of the Roman commander, they fought and won a battle; and it was thought, that if Damocritus, their general, had pressed the pursuit, he might have taken their city, by entering with the fugitives. After this, instead of besieging the place, he carried on a petty warfare of incursions and plundering expeditions; and when he led his army home, he was charged with treachery, and condemned to pay a fine of fifty talents, which operated as a sentence of perpetual banishment.

Diaæus, who succeeded him, paid more attention to the remonstrances, which were now renewed by Metellus. He consented to a suspension of arms, and directed his policy in the mean time so as to win the voluntary adherence of the towns round Sparta. The truce was broken by the rashness of Menalcidas, who had been chosen general of Lacedæmon. He suddenly attacked the town of Iasus in Laconia, which was subject to the Achæians. The popular voice was loud against him for thus needlessly renewing a hopeless contest, and in a despairing mood he ended his life by poison.

At length the long-expected commissioners arrived at Corinth, and declared the will of the senate: that Lacedæmon, Argos, Corinth, Heracleia, and Orchomenus in Arcadia, should no more belong to the Achæian confederation. Polybius thought that the senate did not mean this mandate to be executed, but only held it out as a threat, to humble the pride and chastise the disaffection of the Achæians. If this be true, it little extenuates their injustice. The fidelity of the Achæians, as allies, had been irproachable, and their errors had been on the side of undue submission, and not of unjustifiable resistance. They were accused of pride because they wished to be something more than the mere shadow of a nation; because they would not

suffer their popular assemblies to be mere courts for registering the edicts of the senate. Their disaffection had not shown itself in any public action: but, granting its existence, it would have been warranted by foul wrongs repeatedly endured; and the only just means by which the senate could subdue it, would have been by endeavouring to merit kindlier feelings. To insult the nation with a threat of dismemberment was less atrocious indeed, but not less absolutely unjustifiable, than actually to dismember it: and, after all, the excuse which is made for the Romans amounts to no more than this, that they would suffer the Achæians to continue incorporated, provided that all the acts of the incorporation might be wholly regulated by themselves. The resolution of the senate excited the Achæians to a burst of intemperate fury, such as often occurs when oppression is brought home to the feelings of the multitude. This is the more lamentable, since the good cause is apt to suffer for the sins of its fallible supporters. Where power is arrayed against right, it goes well with the oppressor if he can put his victim in the wrong in some particular instance; for the greater part of mankind are fitter to scrutinize the details of a quarrel than to comprehend its general bearings; and there are many good men, but weak in goodness, who will scruple to contend for the better cause, unless they altogether approve of their associates. The Achæians in their anger arrested all the Lacedæmonians whom they found in the streets, and even tore from the houses of the Roman ambassadors such of them as had taken refuge there. The ambassadors, returning home, exaggerated their ill-treatment, and falsely imputed it to the deliberate will of the nation. The senate, however, did not proceed to extremities, but sent Sextus Julius Cæsar, a prudent and temperate man, to settle the matter peaceably, if possible.

This unexpected moderation came too late. There were spirits among the Achæians that were madly bent on dragging their country into war, whether through mere turbulence, or through the fear that they might be the sacrifice for peace. The old attachment of the people towards Rome had been turned into bitterness by repeated provocations, and they were now readiest to listen to those who spoke most harshly of the senate. When Julius came before the congress, he addressed them mildly, extenuated the insult to the former ambassadors,

and while he exhorted them to forbear further breaches of friendship, said little of atonement for the past. This the turbulent party regarded as a proof, not of moderation, but of weakness; for the Roman arms had suffered some reverses both in Africa and Spain. Nevertheless a friendly answer was given, and the ambassadors were asked to go to Tegea, to be present at a conference which should there be held with ministers from Lacedæmon for the purpose of settling the matters in dispute. Julius went to Tegea, and requested the Lacedæmonians to attend the conference, and to make arrangements for a peaceable discussion of the existing differences, and for the suspension of all hostilities till the Romans should send commissioners to arbitrate between the contending parties. But Critolaus, who had succeeded Diaus as chief magistrate of the Achæians, was determined that the meeting should be to no purpose. He went indeed himself to Tegea, but he prevented the other delegates from repairing thither: and when the Lacedæmonians were ready to enter into the discussion, he professed that he could not decide on anything, but that he would submit their proposals to the Achæian congress, which would meet within six months. Julius dismissed the Lacedæmonians, and returned to Rome full of resentment. Critolaus, in the course of the winter, visited the several cities, under the pretence of giving an account of the conference at Tegea. Whithersoever he came, he misrepresented the conduct of the ambassadors, and exasperated the multitude to the utmost against Rome. He also directed the magistrates to suspend all actions for debt during the war with Lacedæmon: and hereby he won the rabble to be entirely at his disposal.

Metellus, by this time, had overthrown Andriscus and re-conquered Macedonia. On receiving news of the disturbances in Peloponnesus, he sent thither ambassadors instructed to pursue a conduct like that of Julius. Some few there were among the Achæians who supported the arguments of the ambassadors; but the many derided them, and drove them from the assembly with shouts of insult. Critolaus inveighed against the tyranny of the Romans, and accused his opponents of cowardice and treachery. A vote was passed for the renewal of war with Lacedæmon; and the general, contrary to all the principles of the constitution, was invested with arbitrary authority in

the conduct of it. The Thebans also, and the inhabitants of Chalcis, took part with the Achæians in the contest: the former, on account of a judgment given against them by the Romans, the latter, for some cause unknown.

Metellus, wishing to have the credit of finishing the war before he was superseded by the consul L. Mummius, his appointed successor, again sent to offer pardon to the Achæians, if they would consent to the separation of Lacedæmon from their body, and of the other states which had been named by the senate. At the same time he advanced through Thessaly with his army. His overtures being rejected, he marched against the Achæian forces, then besieging Heracleia, because it would not adhere to their confederacy. Critolaus, on hearing of his approach, retreated hastily. So blinded was he by terror, that he passed through the defile of Thermopylæ without once offering to make a stand there. Metellus overtook the retreating army, and entirely defeated it, near Scarpheia in the eastern Locris. Critolaus was never seen after the battle, but he was supposed to have perished in a neighbouring morass.

It was the custom of the Achæians, when their general died in office, that his authority should devolve upon his predecessor. Diaus, therefore, took the place of Critolaus, and resorted, forthwith, to the most violent measures, in order to provide the means of carrying on the war. He summoned all the able-bodied citizens to arms, and filled up his battalions with emancipated slaves. He recruited the exhausted treasury, by compelling the rich to make large contributions, which were nominally free gifts. The people now began to feel the evils of the war, and gloomily to anticipate its impending dangers. They were troubled at losing their slaves and their property; and the pride of freemen in a slave-holding community was wounded by seeing their bondmen put on a level with themselves. They praised the fortune of the slain, and pitied those who were going to the war. The women lamented that they had contributed their money, as if it had been intentionally, to the certain destruction of their sons. Yet, though every place was full of discontent and fearful expectation, no attempt was made to stop the measures of Diaus; but it seemed as if the people were possessed by a spirit of despondency, which alike unfitted them for

timely submission and for vigorous resistance. Most lamentable of all was the behaviour of the Patrians, and the men of certain towns associated with them, who had been discomfited in Phocis, after the battle of Scarpheia. Some slew themselves, others fled wildly from their dwellings, without knowing or thinking whither to bend their steps. Some seized their fellows and delivered them to the Romans; some acted as sycophants and false accusers, though no sign had yet been given that such service would be acceptable; some met the conqueror as suppliants, confessed that they had erred, and besought forgiveness, though their conduct had not yet been brought into question.

Metellus meanwhile advanced to Thebes; for the Thebans had shared with the Achæians in the siege of Heraclæia and the subsequent battle. The city was abandoned by the inhabitants at his approach. He entered it, but he would not suffer his soldiers to damage the buildings, nor to kill or make prisoners the fugitives. From Thebes he went to Megara. The Achæian garrison retired at his approach, and the gates were opened to him. He then advanced to Corinth, where Diæus had shut himself up. Still earnestly desiring to finish the war, he renewed his offers of peace through some leading Achæians; whether prisoners, or, which seems probable, ambassadors who had come to him on some mission from the nation. Thus he endeavoured by moderation to atone for the original injustice of his commonwealth, while the Achæians, who had right upon their side in the outset, still continued to do their utmost towards putting themselves in the wrong. Yet the Romans were partly to blame even for this; for they had robbed the Achæians of their best and wisest patriots, and kept down any who might have worthily replaced them; so that now, when the servile flatterers of Rome had become a curse and a by-word among the people, there were few to take the lead, save reckless incendiaries.

The Achæian chiefs who came from Metellus warmly urged the acceptance of his terms, and they wanted not supporters within the city: but Diæus and some others, who despaired of forgiveness, were bent to stake their country's fortune and their own upon one cast. To raise an insuperable bar to reconciliation, they accused the ambassadors of traitorous dealings with the enemy, and

threw them into prison. Sosicrates, the lieutenant-general, was joined in the charge. He had supported, it was said, the sending an embassy to Metellus, and, in short, he was author of all the mischiefs—one of those convenient generalities that serve to cloak injustice, when the trick is favoured by loose and arbitrary proceeding. He was condemned and racked to death, without making any of those disclosures which his tormentors looked for. His savage treatment produced a reaction in the popular mind in favour of the ambassadors; yet their release was not obtained without a bribe to Diæus, who could not forego his wonted venality, even in this extremity of peril.

Meanwhile, the consul Mummius, arriving with a powerful army, sent Metellus and his forces back into Macedonia. He himself engaged in the siege of Corinth. The besiegers were careless through the confidence of strength, and the Achæians, making a sudden sally, drove in their outposts, and killed and wounded many of them. Encouraged by this success, they came out and offered battle. The consul was not slow to accept it. The Achæian cavalry fled at the first onset, but the foot maintained the fight with desperate resolution, against an enemy very superior in force. At length they were broken by an attack in flank, and finally routed. If Diæus now had retreated into Corinth, assembled the relics of the beaten army, and prepared for a resolute defence, he might probably have obtained some tolerable terms for his country, from the eager desire of Mummius to finish the war before his command expired. Instead of this he fled to Megalopolis, where he killed his wife to save her from captivity, and then ended his own life by poison.

The Achæians who had escaped from the battle into Corinth, thus abandoned by their leader, made no attempt at defence. They silently withdrew in the following night, and most of the Corinthians did the same. The gates were left open, but Mummius hesitated awhile to enter, for he feared an ambuscade. On the third day after the battle, he entered the city. He cruelly slaughtered most of the men whom he found there, sold the women and children, and pillaged and burnt the town, after selecting the most celebrated works of art, and shipping them for Rome. The pretence for all this destruction was the insult offered to the Roman commissioners:

the true motive was the wish to deprive the Achæians of a fortress important both from its strength and situation.

The senate had appointed ten commissioners to assist the consul in settling the affairs of Greece; but before they came he had already demolished the walls and disarmed the inhabitants of the cities that had sided with the Achæians. The commissioners abolished democracy in all the states, and directed that the magistrates should be chosen according to a scale of property. They also put down the national assemblies, and forbade the purchase of lands by any man beyond the boundaries of his state: though these two latter regulations were soon afterwards recalled. From this time forward Greece, with the exception of Thessaly, was reduced to a Roman province, under the name of Achæia, and a Roman magistrate was annually sent out to govern it. Epirus and Thessaly were included in the province of Macedonia.

Shortly before the arrival of the ten commissioners, Polybius returned into Greece. His qualities had won respect and favour from many distinguished Romans. He had been the most valued friend, adviser, and instructor of P. Scipio Æmilianus, the son of Æmilius Paullus, and the adopted grandson of Africanus. He accompanied Scipio when sent as consul into Africa, and was with him at the taking of Carthage; after which he returned to his native country, in time to try how far his favour with the Romans might enable him to mitigate its sufferings. Among other more serious insolencies of conquest, some worthless fellow accused Philopœmen as an enemy to Rome, and urged the commissioners to break his statues, and abolish the honours paid to his memory. Polybius spoke in behalf of his father's friend. He did not dwell on the poorness of the proposed revenge, nor on the obvious fact that Philopœmen owed allegiance to the Achæian only, and not to the Roman commonwealth: these considerations, though true and just, would not have been well received. But he spoke of the trying and dangerous occasions on which the Achæian hero had played the part of a faithful ally to Rome; and either his person or his arguments were so acceptable to the commissioners, that they not only refrained from the suggested baseness, but at his request they restored some statues of Aratus

and Philopœmen which had been taken out of Peloponnesus to be sent to Rome. For this the Achæians erected a marble statue of Polybius himself.

Another mark of favour was shown by the commissioners to Polybius—the permitting him to fix on any thing, and take it freely, among the confiscated effects of Diæus. However, he declined the offer, and dissuaded his friends from being purchasers at any sales of confiscated property. The commissioners at their departure appointed Polybius to make a circuit among the cities, that he might explain the laws and practice of the constitution which the Romans had given them, and might determine their controversies, until they were sufficiently accustomed to their new institutions to administer the government according to them. This commission he seems to have executed with great ability; and high honours were conferred on him in the Achæian cities on account of it.

CHAPTER XVII.

Of the state of Greece under the Roman dominion.

SECT. I.—FOR many ages after the fall of the Achæian confederacy the history of Greece is that of an oppressed and degraded province. The states, indeed, retained, for the most part, a form of government nominally republican, but constituted according to the pleasure of the Romans, and not according to the wishes or interests of the people. All authority was placed in the hands of the wealthier classes; and if any person were aggrieved by a decision of the magistrates, the appeal was not to a more popular tribunal, but to the Roman governor. Few, indeed, have been the cases in the history of the world where the moral superiority of the conquerors to the conquered has been such that an arrangement like this could be beneficial. In ordinary instances the effect must be, either that maladministration would be without redress, the foreign officer being biassed in favour of the delinquent by the love of ease and the habits of personal intercourse; or else that frivolous complaints would be encouraged, so that the magistrates, finding their lives and fortunes at the

proconsul's mercy, might be deterred from opposing his arbitrary will or checking his rapacity. In truth, the oppressions of the Roman officers were far greater than any that would probably have been exercised by the native aristocracy: for these, in the want of any immediate popular control, had the natural sympathy with persons allied to them by manners, language, and blood; and the wish, almost universal among men, to stand well in the esteem of those with whom their lives were to be passed: whereas the others were strangers, widely differing in manners from the Greeks, and despising all from whom they differed; sent out for a year, and intending in that time to improve a flourishing, or recruit a shattered fortune.

These were evils of which the full development did not immediately follow the conquest; for personal avarice and corruption were not yet prevalent vices among the Roman magistrates. But the destruction of national energy in Greece, and of all the bolder and manlier virtues, were ends to which the policy of Rome had been continually tending, even before Achaia was reduced to the state of a province. These virtues and that energy were quickly stifled by the pressure of the Roman yoke, and by the exclusion of the Greeks from all important political action: but they had previously existed in a greater degree than was willingly admitted by the Romans, whose pride avenged itself for the older civilization of the Greeks, and for their acknowledged pre-eminence in the refinements of literature and art, and in the heights and depths of philosophical speculation, by proclaiming and exaggerating their inferiority in courage, constancy, and practical wisdom. It is a common error, arising perhaps from the evident degeneracy of the two most celebrated commonwealths, those of Athens and Lacedæmon, to suppose that the spirit of freedom was extinct in Greece from the time of Alexander downwards. It was, indeed, violently overborne for a while by the power of his contending successors, assisted by the factious animosities of their respective partisans in the several cities: but though it slept it was not dead, as was shown by the rapid growth of the Achaian league. This latter body need not shrink from comparison with any that Grecian history can show. If it was, as seems in-

separable from a federal community, less prompt and energetic in its conduct than Athens, or even than Lacedæmon, it was superior to both in sound and liberal policy, in justice, and in moderation. Its circumstances, however, were by far less favourable. It had a difficult game to play between the ambition of the Macedonian and Spartan kings and the turbulence of the Ætolians: but from the time when Rome appeared upon the stage, its doom was sealed. The power of Rome might, perhaps, have been resisted by an union of the Greeks, such as was formed against the Persian; but her artful policy completely ensured that no such union would take place: nor ought it to be made a charge against the Greeks, that they failed to withstand the most formidable combination of force and craft which the world had ever seen; especially as in the first instance they wanted the information which would have enabled them rightly to value the pretensions of the senate to disinterested generosity. As the course of history does not confirm their imputed political degeneracy, so it bears the most decided testimony to the preservation of their military courage. Philopœmen's soldiers were no whit inferior in bravery, nor in aptitude for discipline, according to the practice of their nation, to those of Flamininus or Æmilius Paullus. If a Roman army was for the most part a better instrument of war than an equal number of Greeks or Macedonians, the cause of the difference is to be sought in the nature of the phalanx, which, after triumphing over every previous system of tactics, gave way in its turn to the Roman legion, as an organization but little inferior in force, and far surpassing it in pliability and readiness of adaptation to different circumstances.

We cannot, from the scanty notices remaining, completely trace the gradual decay of national energy and prosperity; it may suffice to mention some particulars illustrating the condition of the Greeks, when the Roman empire had reached its greatest extent, and when its system of provincial government had been fully developed. But first we will briefly touch on the war which was waged in Greece before that period, between the Romans and the generals of Mithridates, king of Pontus.* (B. C. 87.)

* The word Pontus, which signifies the sea, is commonly used by Grecian writers for a specific designation of the Euxine sea. From the sea itself it is

When nearly the whole of Lower Asia had been brought under the immediate dominion of Rome, or under that of her vassal monarchs, a rival power arose in that of Mithridates, an able, brave, and high-spirited, but cruel and faithless prince, who had much enlarged and strengthened his kingdom at the cost of his weaker neighbours. War soon broke out between him and the Romans, wherein he vanquished several armies, and quickly mastered Asia Minor, with most of the adjoining islands. In his bitter hate to Rome, he sent letters throughout Asia, commanding the people, on a stated day, to massacre all Italians in the country. The order was obeyed, as well through dislike of the Romans as through fear of the king; and eighty thousand persons are said to have perished in the slaughter. Mithridates then laid siege to Rhodes with all his forces both by sea and land; but the citizens defended themselves resolutely and successfully. After this Mithridates resolved to carry the war into Europe, and sent a fleet to Greece, and an army through Thrace into Macedonia.

The Athenians, for some unknown cause, had been fined by the Romans, and their magistrates forbidden to exercise their functions. Aristion, an Epicurean philosopher, being sent by them on an embassy to Mithridates, persuaded them, upon his return, to side with the king, assuring them that he would restore democracy, and would confer the greatest benefits both on the public and on individuals. The people followed his suggestions, and the chief men retired to Italy. Archelaus, who commanded the Asiatic fleet, subdued the island of Delos, which had revolted from the Athenians, restored it to them, and deposited his booty in their city. Under pretence of guarding it, he sent two thousand soldiers, by whose aid Aristion made himself tyrant of Athens, and slew or gave up to Mithridates all the friends of Rome. Archelaus, likewise, gained the Achæians, Lacedæmonians, and Bœotians, and conquered the Cyclades, and other islands of the Ægean sea.

frequently transferred to the countries upon its shores, with which the Greeks had very important commercial intercourse; and by the Romans it is made to denote a particular region, comprising the greater part of the Asiatic coast of the Euxine sea, and extending from the skirts of Caucasus to the confines of Bithynia. It is in this last sense that the word is to be understood whenever the kingdom of Pontus is spoken of.

In the following year (B. C. 86) the consul Lucius Cornelius Sylla came into Greece. The command in the Mithridatic war had been disputed by arms between him and Caius Marius; and after a most savagely conducted struggle, Marius being overcome had escaped with difficulty from Italy, and his victorious rival carried his forces into Greece. The Bœotians submitted at his approach, and the other states that had taken part with Mithridates sent ambassadors to offer their obedience. Athens only held out. Sylla left one of his officers to besiege the city, while he himself attacked Peiræus, where Archelaus had shut himself up. After vainly assaulting the place, he set himself to the construction of battering engines upon a vast scale. For timber he cut down the sacred groves of Attica, the trees of the Academy, and those of the Lycæum: for money to carry on his operations, he pillaged the temple of Delphi. When his engines were completed he returned to the siege of Peiræus, which he continued through the winter: but all his attacks were baffled by Archelaus, and at last he desisted from the attempt, and turned all his forces against Athens.

That city was already suffering grievously from famine. Supplies were plentiful in Peiræus, for the fleet of Mithridates commanded the sea: but Sylla had taken and demolished the long walls that protected the communication between the city and its harbour, and his vigilance foiled every attempt of Archelaus to throw provisions into Athens. The miseries of the besieged were enhanced by the insolent profligacy of Aristion and his intimates, who wasted the stores of the garrison in debauchery, while the citizens were feeding on dogs and horses, and even on shoes and leathern bottles. The tyrant wantonly insulted the people in their sufferings. He refused a little oil to feed the holy lamp in the temple of Minerva, and when the priestess begged of him half a bushel of barley, he sent her in mockery that quantity of pepper. At length the people sent the councillors and priests to entreat that he would capitulate with the Romans, but he drove them from his presence with blows. Nevertheless when Sylla came in person against the city, he sent some of his boon companions to treat for peace; who, instead of coming directly to the point, began to harangue about Theseus and other ancient heroes, and

the noble deeds of Athens against the Persian. The Roman cut them short by telling them that he came not to study rhetoric, but to punish rebels. Soon afterwards he took the city by a night attack, on a part of the wall that was unguarded. The soldiers by his order slaughtered all they met, till the blood ran out in streams through the gates: and many Athenians killed themselves in despair, expecting the utter desolation of their country. However, at the entreaty of some Athenian exiles, and of all the Roman senators in his camp, the destroyer stayed his course, and said that he would spare the living for the sake of the long since dead. Nevertheless he took from the Athenians the power of choosing magistrates and making laws; and he condemned Aristion to death, with his associates and ministers. After this he returned to the siege of Peiræus, and obliged Archelaus to abandon it, after a most resolute defence, and retire to Munychia. When Sylla had made himself master of Peiræus, he dismantled the ramparts, and burnt the store-houses and arsenal.

Archelaus soon quitted Munychia, and went into Thessaly, where he was joined by the army in Macedonia. With these he again advanced into Bœotia, where Sylla met him. In a great battle near Chæroneia the steadiness and discipline of the Romans triumphed over a vast superiority of numbers. Some time after, a second Asiatic army was sent into Greece, and was likewise overthrown.

Meanwhile the cruelties of Mithridates had driven Ephesus and many other Asiatic cities to revolt. For fear of a general defection, he proclaimed liberty to the Grecian cities, remitted debts, and gave civil franchise to slaves and strangers. On hearing of the second defeat in Greece, he directed Archelaus to make peace on the best conditions he could obtain. Sylla was no less anxious to put an end to the war, for his enemies had regained the superiority in Italy. The terms, however, were not agreed on till Sylla had passed into Asia. Mithridates at length agreed to give up all his winnings in this war, to pay two thousand talents, and to deliver seventy of his galleys to the Romans. Sylla then prepared for his return into Italy, to wrest the government out of the hands of his foes. (B. C. 84.)

Before embarking he stayed for some time in Asia, to settle the government, and to enrich himself and his soldiers.

He commanded all slaves who had been freed by Mithridates to return to their masters. This gave rise to tumults; some cities revolted, and the Romans gave a loose to confiscation and slaughter. The partizans of Mithridates were every where severely punished, especially at Ephesus. Sylla then called a meeting of deputies at Ephesus, from all the cities of Asia. He reproached them with the benefits received from Rome, and with their ungrateful readiness to join Mithridates, and to execute his cruelties. For this he said they had in part been punished by the rapine and oppression of the master they had chosen; and the chief authors of the mischiefs had already suffered justice at the hands of the Romans. Nevertheless some further chastisement was due; but it should be tempered with regard to the Grecian name and to old friendship. He would only fine them to the amount of five years' tribute, besides his expenses in the war, and the usual taxes due from the province.

He sent parties of soldiers into all the towns to collect the sums required from each. The people were obliged to borrow money at high interest, and to mortgage their theatres and other public buildings. Furthermore, they were given up to the insolence and covetousness of Roman soldiers billeted upon them, each householder being obliged to pay to his unwelcome guest sixteen drachmæ a day (about nine shillings), and to entertain him, and any number of his friends he might think proper to invite. Nor did the proconsul defend them against the pirates, whom Mithridates had encouraged till they grew to such a pitch of strength and boldness, that they not only infested the seas, but attacked the towns. While Sylla was in Asia, they took and plundered Iassus, Samos, Clazomenæ, and Samothrace. After thus administering the affairs of the province, he set sail for Italy.

When the other Grecian states were brought under the dominion of Rome, the Rhodians alone retained their laws and liberties. They had indeed been obliged to lower their pretensions to absolute independence, and to become allies of Rome, which always implied a degree of subjection; but their political institutions were unchanged, and they were free from the interference of Roman magistrates in matters of internal administration. They still kept up their navy, and continued the exercise of

arms; and that they still had much of their ancient strength and spirit was amply proved by their resistance to Mithridates, when they alone, unaided by the Romans, withstood and repelled the fleets and armies of that monarch, directed by his eminent ability, and urged forward by his determined will. It was probably in reward of their services on this occasion that Sylla made the town of Caunus in Caria, and many of the islands, tributary to them. They seem to have continued in their then condition till the civil war in the Roman empire, which followed the death of Cæsar; in the course of which their city was taken by Cassius, and plundered of nearly all its riches.

The war with Mithridates was resumed and continued, with many changes of fortune, till that prince was entirely stripped of his possessions, and driven to kill himself that he might not fall into his enemies' hands; but the supremacy of Rome over the Greeks, both in Europe and Asia, was not again brought into question. This supremacy was exercised by the provincial governors, who were usually taken from the principal magistrates of the foregoing year, and styled proconsuls or prætors, according to the office they had borne. These governors commanded the forces, and directed the general administration; they also exercised the judicial power, at least in all matters concerning the state, and in all wherein either party was a Roman. They were restrained by certain rules in the exercise of authority over their countrymen, whom they could not punish with death or stripes, unless condemned after a regular trial, with all the forms of Roman law. But those who were not citizens of Rome, either by birth or by adoption, might be scourged or slain by the most summary and arbitrary process. Add to this that though the private differences of the provincials were usually decided by their municipal courts, appeal might always be made to the governor, who could overrule the decision and condemn the judges; but if any wrong were done by the governor, redress was only to be sought at Rome, at great expense and even hazard, and with a strong probability that the culprit would be screened by family interest, or by the fellow-feeling of similar delinquents.

This system could not fail to be fruitful in abuses; but all its evils were most fully developed by the manner in which

these offices were filled. In the then corrupted state of Roman manners, the ordinary road to consulships and prætorships was to squander money in bribery and public shows. In so doing the candidates looked forward to the provincial governments, which always followed in the train of high offices in the city; and calculated that, by squeezing the unhappy tributaries, they would more than reimburse themselves for the money which they had lavished on the gratification of the ruling people. We cannot then wonder at the general prevalence of extortion and oppression, which a slight acquaintance with the history of the Roman provinces will lay before us.

"It is admirable," says Cicero in a letter to his brother, "that you should so have governed Asia for three years, that no statue, no picture, no precious vessels nor rich tapestry, no slaves, no offers of money for the perversion of justice, should have turned you aside from the highest uprightness and purity of conduct. But what can be conceived so excellent or so desirable, as that that virtue, that contentedness, that freedom from covetous desires, should not lie hid in darkness, but should be set in the broad light of Asia, in the sight of a most conspicuous province, and in the hearing of all nations? that men should not be frightened by your journeys, exhausted by your expenses, disturbed at your arrival? that whithersoever you come there should be joy, both publicly and privately; the city receiving you as a guardian, not as a tyrant, and the house where you lodge as a guest, not as a plunderer." A goodly picture of the feelings which usually attended the march and welcomed the arrival of a Roman magistrate; not to mention the special praise attached in the beginning of the passage to the abstinence from practices, of which the very suggestion would, in a purer state of morals, have been repelled as an insult. But if a particular instance be needed, hear what Cicero says, when sent into Cilicia, of the state in which his predecessor left the province. "I heard of nothing but complaints of the poll taxes, and that all were selling their estates; I heard groans and mourning in the cities; portentous actions, not of a man, but of a savage beast."

Even when the governor was personally incorruptible, his officers, and even his servants, would often traffic on

the credit of their influence over him, real or pretended. This is a danger inseparable from arbitrary government, and, especially when administered by foreign and temporary residents. But the proconsul and his train were not the only privileged oppressors. Large powers were given to the society of publicans,* or farmers of the revenue, who often abused them to a great extent. Of this the senate was not unaware, even so early as the conquest of Macedonia; for in a decree of that period, quoted by Livy, it is observed, that wherever the publicans are employed, either the revenues are cheated, or else the subjects are oppressed. The publicans were all from the class of knights, the second order in the Roman commonwealth; and it will readily be supposed that in any disputes between them and the provincials, the interests and habits of the governor would generally bias him in favour of those who were the most capable of serving or harming him.

The list of bloodsuckers does not end here. There were certain officers at Rome (the *ædiles*) to whose office it belonged to exhibit shows for the gratification of the people; and the display of more than usual magnificence in these was the readiest way to popular favour. If an *ædile* had a friend in any of the provincial governors, he was generally supported in defraying a part of his expenses by forced contributions from some tributary city. Nay, so prevalent was this custom, that if any unfashionably conscientious proconsul refused to countenance such extortions, complaint was made as if of a breach of friendship, or a lawful right improperly withheld. Roman merchants and money lenders swarmed in the provinces, who generally took care to be provided with letters from Rome, recommending them to the governor, and trusted more to favour than to justice in their disputes with the native inhabitants. The money lenders in particular took advantage of the distresses into which the cities were plunged

to make loans at the most exorbitant interest, giving little attention to the question of securities or ability to pay. On these points, instead of exercising an ordinary prudence, they too often confided in their influence with the governor, that he would support them in the most violent measures for the recovery of their dues. It was common to give them commands in the province, expressly with the view of enabling them to employ their official authority in enforcing the satisfaction of their private claims. Of the length to which this abuse might be carried we have a scandalous instance in the case of one Scaptius, who having a heavy claim upon the city of Salamis, in Cyprus, for a loan bearing interest at 48 per cent., obtained from Cicero's predecessor in Cilicia a command in the island, and a troop of horse to be at his disposal, with which he shut up the council in their hall till five of them were starved to death.

Another instance of the tyranny exercised over the unfortunate provincials is, that they were not only deterred from transmitting complaints to Rome, but frequently compelled to send deputations, at a vast expense, to bear witness to the moderation of their plunderers, and the benevolence of their oppressors. However shamefully a proconsul may have misconducted himself, when he quitted his government it seldom happened but that he was followed by flattering embassies. It was thus even with C. Verres, propretor of Sicily, against whose unexampled atrocities the voice of the province was lifted almost unanimously, as soon as the people had an opportunity of safely venting their real sentiments.

Having specified some of the evils of Roman dominion, we have now to look for the countervailing advantages, such as they were. When the conquered nations were poor and rude, these advantages were great, though even then apparently insufficient to outweigh the degrading effects of their subjection. They here comprised the introduction of better laws, more polished manners, greater mental culture, and altogether of a more advanced civilisation; the establishment of peace and order, at least to some degree; the increase of riches; the erection of noble works for public utility and magnificence. But few of these benefits could be needed by Greece, or by those countries which had

* These publicans must not be confounded with the low and degraded persons so called in the English translation of the New Testament. The latter were the actual tax-gatherers, mostly Jews of mean condition, and despised by their countrymen for consenting to act as ministers of a foreign usurpation, and servants of a people hated as tyrants, and looked down on as strangers to the law and the promise. The proper publicans, Roman gentlemen of wealth and rank, would have been much surprised to find themselves in the company in which the others generally appear; from whom, indeed, they differed as much as a commissioner of excise from a common gauger.

felt the influence of Grecian civilisation. In intellectual culture, in useful arts and elegant accomplishments, the Greeks were not the scholars but the masters of the Romans. In politics and jurisprudence they may have been, to a certain degree, inferior to them, but assuredly not so far as to need that their errors should be set right by the arbitrary interference of a foreign governor. With respect to the magnificence displayed in public works, there is no doubt that many Grecian cities were largely benefited in this manner by the favour of the emperors; but the sums thus spent in adorning particular places bore but a small proportion to those which were drawn from all the cities of the provinces; and when we consider the taste, the love of splendour, and the public spirit of the Grecian race in general, there can be little doubt, that if the people had been left to develop and employ their own resources without constraint, the aggregate of beauty and convenience produced would have been far greater than that which resulted from the partial bounty of the distant sovereign.

It appears that the benefits of Roman rule over Grecian cities are chiefly to be looked for in protection against foreign war and civil broils. There were drawbacks, however, even to these advantages. For the fierce debates in the popular assemblies, and bloody struggles which sometimes ensued, there was often substituted a war of slander and underhand intrigue. Power and riches were to be gained by the favour of the proconsul: that favour was to be courted by flattery and corrupt subserviency, and to be maintained in its exclusiveness by defamation of rivals; and thus calumny, falsehood, and all baseness, succeeded, if not to virtues, at least to vices of a manlier cast, and less irretrievably degrading. The acute and versatile genius of the nation enabled them, as they had led the way in all more generous arts, to be also preeminent in devising the most ingenious methods of self-debasement. At once depraved and impoverished by the manner of their government, they threw out swarms of adventurers to seek their fortunes as buffoons, as parasites, as ready tools in every mean and contemptible service. For this they are severely lashed by the Roman satirists: though really, in the time of Juvenal, the Romans appear to have been but little less servile, however

their inferiority in suppleness and quickness of perception may have made their adulation less successful.

Even in respect of outward tranquillity, the sway of Rome was not productive of unmixed advantage to the Grecian cities. They were, after the defeat of Mithridates, effectually secured against attack from any foreign enemy of overwhelming power; but they seem to have been more exposed to the attacks of robbers and pirates than while they trusted for their defence to their own energy and warlike spirit. The protecting force was then on the spot, and prompt and vigorous action was ensured by personal interest and danger. But the troops of the Roman governor might be distant, or might be employed against enemies from whom he expected more of profit and of glory; and before they could be brought to the spot, the plunderers might be safe in their inaccessible fastnesses. If the governor failed in his duty, the cities were too much reduced in strength and spirit to be able to supply his deficiency. Accordingly, the trade of robbery seems to have prospered to a vast extent under the Roman government. In the rich and populous Sicily, where Syracuse and Acragas had defied attack from any force inferior to that of the mighty Carthage, it was one of the charges against Verres, that piratical fleets had infested the seas unopposed, and that the fleet of the prætor had not ventured to face them. For the state of Asia, we may again refer to the praises bestowed by Cicero upon his brother. "You restored many cities ruined and almost abandoned, among which were the noblest respectively of Ionia and Caria, namely, Samos and Halicarnassus: you quelled the robberies in Mysia, put a stop to murder in many places, established peace throughout the province; and not only did you repress the robberies in the fields and highways, but also the greater and more numerous depredations in the towns and temples."

The evils here described were occasionally lightened by the prudence and humanity of a particular governor; nor is it to be supposed, even under the worst administration, that human life was one unmingled tissue of wretchedness and guilt. There is eating and drinking, and marrying, and giving in marriage, in the worst times as in the best; and there are certain pleasures,

pains, affections, and sensibilities, so closely inwoven in man's nature, that they never can be utterly severed from it. The strongest features are those which give their character to the picture. As in the brightest ages of a commonwealth there is much of hidden selfishness and dishonesty, both public and private, which escapes the eye of the historian; so in periods apparently teeming with nothing but tyranny, deceit, and shameless licentiousness, there may be many instances of humble integrity and contented industry in nooks and corners, far below the surface of society, condemned to obscurity by the very position which shelters them from the tide-way of national corruption. So far however as the characters of men are determined by the government under which they live, we need not doubt that the Roman conquest was most pernicious to that of the Greeks; nor that, even though we exclude the positive oppression and spoliation they so often suffered, the stagnation of energy resulting from their servitude was more destructive both to virtue and to happiness than all the storms of their turbulent independence.

That this was so in Greece is proved by its progressive depopulation. The rate of increase is not a measure of national prosperity. In every fully-peopled country it must necessarily be slow, and it is most desirable that it should be kept in check by habits of forethought. But in a happy and flourishing community, the multiplication of the people, however gradual, must go forward. A continued decline of the numbers of men is a proof of more rapid diminution in the means of their subsistence, and an index of long and painful struggles with want and wretchedness. Between the Persian wars and the death of Alexander, Mr. Clinton has inferred, from very careful investigation, that the average population of Greece was little less than that of Britain in 1821. Under the Roman dominion its state was very different. "Returning from Asia," says Servius Sulpicius, in his well-known letter of consolation to Cicero, upon the loss of his daughter, "as I sailed from Ægina towards Megara, I began to look out upon the regions round about. Behind me was Ægina, before me Megara; Peiræus on the right hand, Corinth on the left; all which towns, once so flourishing, now lay prostrate and ruined before my

eyes." The towns of Laconia in its flourishing state were nearly a hundred; in the time of Augustus, Strabo tells us, they were thirty. The condition of Arcadia was not more flourishing. "Mantineia, and Orchomenus, and Heræa, and Cleitor, and Pheneus, and Stymphalus, and Mænalus, and Methydrium, and Caphyæ, and Cynætha, either are no more, or exist but in ruins and faint traces." At the same time Thebes was a miserable village, and the other towns of Bœotia were little more, excepting Tanagra and Thespiæ.

In short, the effects of the Roman conquest upon the condition of the Greeks tallied exactly with those of a similar change upon the Italian cities of the middle ages; and they cannot be better described than in the eloquent language applied to the latter by an illustrious countryman of ours, Algernon Sidney. "Whilst Italy was inhabited by nations governing themselves by their own will, they fell sometimes into domestic seditions, and had frequent wars with their neighbours. When they were free they loved their country, and were always ready to fight in its defence. Such as succeeded well, increased in vigour and power; and even those that were the most unfortunate in one age, found means to repair their greatest losses if their government continued. Whilst they had a propriety in their goods, they would not suffer their country to be invaded, since they could have none if it were lost. This gave occasion to wars and tumults; but it sharpened their courage, kept up a good discipline, and the nations that were most exercised by them, always increased in power and number. They sometimes killed one another, but their enemies never got any thing but burying-places within their territories. All things are now brought into a very different method by the blessed governments they are under. The fatherly care of the king of Spain, the pope, and other princes, has established peace among them. The thin half-starved inhabitants of walls supported by ivy, fear neither popular tumults, nor foreign alarms; and their sleep is only interrupted by hunger, the cries of their children, or the howling of wolves. Instead of many turbulent, contentious cities, they have a few scattered, silent cottages; and the fierceness of those nations is so tempered, that every rascally collector of taxes extorts, without fear, from

every man that which should be the nourishment of his family. The governors, instead of wearying their subjects in wars, only seek, by perverted laws; corrupt judges, false witnesses, and vexatious suits, to cheat them of their money and inheritance. This is the best part of their condition. Where these arts are used, there are men, and they have something to lose: but for the most part the lands lie waste, and they who were formerly troubled with the disorders incident to populous cities, now enjoy the quiet and peaceable estate of a wilderness.

"Again, there is a way of killing worse than that of the sword; for, as Tertullian says, upon a different occasion, *prohibere nasci est occidere* (to hinder birth is to kill). Those governments are in the highest degree guilty of blood which, by taking from men the means of living, bring some to perish through want, drive others out of the country, and generally dissuade men from marriage, by taking from them all ways of subsisting their families. Notwithstanding all the seditions of Florence, the horrid factions of Guelphs and Ghibellins, Neri and Bianchi, nobles and commons, they continued populous, strong, and exceeding rich; but in the space of less than a hundred and fifty years, the peaceable reign of the Medices is thought to have destroyed nine parts in ten of the people of that province. Machiavel reports, that in that time Florence alone, with the Val d'Arno, a small territory belonging to that city, could, in a few hours, by the scound of a bell, bring together a hundred and thirty-five thousand well-armed men; whereas now that city, with all the others in that province, are brought to such despicable weakness, emptiness, poverty, and baseness, that they can neither resist the oppressions of their prince, nor defend him or themselves if they are assaulted by a foreign enemy. This is not the effect of war or pestilence: they enjoy a perfect peace, and suffer no other plague than the government they are under. But he who has thus cured them of disorders and tumults, does, in my opinion, deserve no greater praise than a physician, who should boast there was not a sick person in a house committed to his care, when he had poisoned all that were in it." — *Discourses concerning Government*, chap. II. sect. 26.

Yet great as were the mischiefs

springing from the triumphant ambition of Rome, it does not therefore follow that her conquests were, upon the whole, a thing to be lamented by the world. Our views of consequences is short and dim; and when we see a mighty scheme of action carried through at a vast expense of blood and suffering, it is but reasonable to conclude, that some great end of a beneficent Providence must have been answered by it, or must be yet in progress, though we may be unable to know that end, and to trace the steps that lead to its fulfilment. The evils just described are natural results of a successful attempt at universal conquest—results which might have been, at least imperfectly, foreseen, and which now, with past experience to aid us, may be confidently foretold as likely to recur, if ever the like attempt shall be carried as far towards its completion. These therefore are the consequences upon which we are to reason in deducing lessons of human conduct, and assigning to each actor in the story his proper meed of praise or blame; and for this it is needless to search into the collateral purposes of absolute wisdom, which may have been unwittingly carried forward by the oppressor, and opposed by the defender of his country. Nevertheless, in viewing the history of periods when the spirit of evil was apparently predominant, it is gratifying to see and comprehend, instead of darkly guessing, that these things were not suffered in vain. In the case now in question, adequate reasons are manifest. We cannot doubt that the successive conquests of Macedonia and Rome were the appointed, as they were the most effectual instruments, of preparing for the spread of the Christian revelation. A common language was furnished by the one, a common government established by the other; and, by the joint working of both, an easy and unrestricted communication was ensured through the whole of the then civilized world. In one man's life the gospel was preached from Syria to Spain; though it seems to have been in Grecian Asia that churches arose most rapidly and in the greatest number. Thus the very revolution which poisoned the springs of happiness and virtue, so far as either depended on national institutions, local attachments, and ancient habits of thinking and acting, was made the means of introducing a new morality, both loftier in principle, purer in prac-

tice, and more powerfully operative upon the actual dispositions of men.

SECT. II.—Though Athens had lost all political importance, it was not the less, under the empire of Rome, the intellectual capital of the civilized world, the centre of art, philosophy, and literature. Whatever excellence was attained in these departments by the Romans, may be traced, with few exceptions, to the influence of Grecian models. The Roman written drama was a copy of the Attic. The comic writers of the school of Aristophanes could not indeed be presented to a foreign audience, since their constant personal and political allusions, their allegories, their mythology, their burlesque extravagance of incident, were inseparably connected with the government and religion of ancient Athens. Their place was partly filled by the satirists, perhaps as a class the most successful, as they are certainly the most original of Roman writers. But the later comedy, which painted domestic incidents and ordinary characters, was freely imitated by Plautus and more closely by Terence. Even the scene was generally laid in Athens, and the persons, manners, and dresses were Athenian. The Attic tragedies were rendered into Latin by Nævius, Attius, Pacuvius, and others; but less happily, if we are to judge from the scanty fragments that have been preserved to us. We find the traces of Homer and of Theocritus in every page of Virgil's *Æneid* and *Bucolics*; and in the *Georgics*, the most original as well as the most perfect of his compositions, the poet evidently had Hesiod in his eye, though here he has by far surpassed his master. Even the Roman metres, epic, lyric, dramatic, or whatever other, are all derived from Greece; though there is reason to think that the metrical system of ancient times, as it appeared in inscriptions and legendary ballads, was of a kind entirely different.

We will now consider the effect produced by intercourse with Greece on Roman eloquence and philosophy. The first may be quickly dismissed. In a state which is governed by deliberative assemblies, oratory will always flourish, and its style will be generally less determined by any foreign models which the speaker may have studied, than by the temper, tastes, and habits of the people at large, or of the educated classes. From the Attic models, admirable as they are, the Roman orators probably gained less

in persuasive effect than in grace and finish. But in philosophy the case is very different. The genius of the Romans was by far more turned to war and politics than to abstract speculation. Before they had dealings with Greece they were utter strangers to philosophy, and when it was introduced, there were many zealots for old times, who foretold much evil that should arise from it. Even in after years the height of their ambition was to comprehend, enforce, and explain the doctrine of some favourite Grecian teacher, and this in the Greek language more frequently than in their own. An opinion became current that the Latin tongue was unfit for scientific discussions; though Cicero, in combating this prejudice, went so far as to affirm that it was yet fitter for them than the Greek. Even he, for the most part, did not attempt to break new ground, or to enlarge the boundaries of science by his own inquiries; but only to enrich his native speech with the doctrines and arguments of Grecian sages. Yet within these limits the study of philosophy came to be considered as a highly becoming, if not as a necessary part of a liberal education; and the Roman nobility were wont to send their sons to Athens, as to an university, to pass a year or two in hearing the most celebrated masters.

Athens, though the most celebrated seat of Grecian philosophy, was not its birth-place. A richer soil, a kinder climate, a greater freedom from formidable neighbours, had caused the Grecian cities on the coast of Asia to outstrip the mother country in the career of cultivation. The most ancient philosophers were chiefly from them, or from the Italian colonies, which rivalled them in early prosperity. But the growth of science in Ionia was checked by the calamities attending the Persian conquest, as it was in Italy by the widely spreading ruin which fell on the Grecian settlements, from the war in which Sybaris was destroyed by Croton, and the bloody revolutions that followed. Meanwhile in Athens we have seen what a burst of mental activity was produced by the stirring events and glorious issue of the Persian wars, and by the rapid growth of the commonwealth in power and glory. Foreign talent also became plentiful there. The imperial city was the natural resort of those among its subjects, who aspired to display their powers on a larger

stage than their own towns could furnish. Skilful artists of every kind were drawn together by the public and private wealth of the state, and the lavish expenditure of both on objects of popular gratification. Rhetoricians and sophists flocked to the place where the arts of persuasion were most valuable. Upon the whole, Athens acquired the fame, which it retained long after, of being the city where every talent and accomplishment might enjoy its most appropriate exercise, and receive its highest cultivation.

If this preeminence had been wholly founded on the power and riches of the people, it would probably have sunk with these into decay. But the Athenians were singularly fitted by nature and habits for their literary supremacy. The idleness in which they generally lived, when not engaged in military duties, was hurtful to them as men and citizens, but far otherwise as critics. Their activity of mind would not let itself be quenched in sluggish indifference or stupid sensuality; on the contrary, when withdrawn from the business of life, it was weighing beauties and faults of composition, or keenly battling with wit and argument on some disputed topic. In their national assemblies, Demosthenes complained that they were accurate judges of style and reasoning, but careless as to the matter under debate. In short, they were a people of literary idlers, eminently wanting in practical wisdom, but no less remarkable for critical acuteness and severity of taste. In those gifts they probably surpassed all numerous communities, before or since; except indeed upon some points, where a better taste has been inspired by a more enlightened morality.

The fame of Athens as a school of philosophy, was much promoted by the circumstance, that it was the birth-place of Socrates and Plato. The greatest earlier philosophers were commonly the founders of sects, each of which prevailed for the most part in some particular region, and thence received its name. Socrates founded no sect, and left behind him no written body of doctrines; but he improved the spirit of philosophical investigation, and cleared from the path of truth the thorns and briars and tangled weeds, the intricate systems of former philosophers and the quibbles of the sophists. So great was the influence of his cha-

racter and abilities, that of the sects which sprang up in after times there were few which did not rejoice to trace their origin to him. The chief of the Socratic sects were also followers of Plato. Among these was Aristotle, who both learnt and taught at Athens, though a native of Stageirus in Thrace. Nearly all the leaders of the Academy and its branches were either Athenians or foreigners resident in Athens.

The leading subject of inquiry among the Socratic sects was the nature of good and evil, of happiness and misery. Their various opinions on this point must here be noticed, both for its intrinsic importance, and because it was that on which they chiefly split. We need not dwell on their physical or logical science. In the latter they followed the principles of Aristotle, of whose merits we have spoken already; in the former their progress was hindered by the clog which hung upon natural philosophy till the age of Bacon and Galileo; the habit, namely, of attending solely to the process of deduction, and slighting that of observation and experiment, which was needful to assure them that their premises were sound, and that no important qualification had been omitted.

According to the Peripatetics and the old Academy, the highest good which man could enjoy was to live in entire conformity to the constitution of his nature, and in the possession of all things conducing thereunto. Of particular good things they made a threefold division, as they belonged to the mind, the body, or the estate. The perfection of the mind was wisdom and virtue; that of the body, health, strength, and beauty, freedom from pain, acuteness of senses, and the like; that of the estate, power, riches, good repute, and personal influence, in such a measure as to furnish scope and means for honourable action. But as the mind is far superior in dignity to the material instruments by which she works—as the body was formed by nature for her, not she for the body—so all outward advantages, natural or civil, are, they said, as nothing, if compared with the transcendent worth of moral goodness. This alone would ensure the well-being of man, without worldly prosperity or bodily accomplishments: yet, if those were added to his portion, his well-being would be more complete. But if virtue were wanting, neither strength, nor beauty,

nor power, nor success, could save the man from being utterly miserable; for all these things were only good as being helpful to good deeds, but were worse than valueless, when made the instruments of vice.

Among the first who quitted the Academy were Pyrrhon and Ariston. They said that virtue was the only good, vice the only evil, and that all other things, such as health or sickness, pleasure or pain, were so utterly indifferent, that a wise man would not even have a choice between them. This, at least, was the doctrine of Pyrrhon, and that of Ariston differed but little from it. These tenets, however, were too violent and unnatural to have many followers.

Another secession was that of the Stoics, so called from a Greek word signifying a portico, the customary resort of Zenon, the founder, and Cleanthes and Chrysippus, his successors. Zenon, offended at the degree of importance allowed to outward things by the Academy, endeavoured to found his system on loftier principles, without running into the extravagance of Pyrrhon. In this he was not altogether successful. His views appear, when broadly stated, to tally with those of the last-named philosopher; when guarded with all the necessary qualifications, to be substantially the same with those of the Academy, but expressed in darker and less usual terms, and made the foundation of stranger conclusions.

He said that virtue was the only good, and vice the only evil, and that nothing else was to be pursued or avoided by the wise. The virtuous man was self-sufficient, and absolutely blessed; and not less blessed when expiring in torments, though death should be the end of his being, than when raised to the summit of temporal felicity, and seeing all his works of beneficence prospering around him. All outward things were indifferent to him; they could neither increase nor lessen his happiness. Nevertheless, of these indifferent things, there were some which he would take, and others which he would reject. They were not indeed properly good or evil; but they were to be chosen, though not to be coveted, or refused, though not avoided. It is obvious that these are really identical with the minor good and evil things of the Academy, which are stated to possess substantial value, but yet of so inferior a kind, that the greatest amount of worldly prosperity could

not be weighed against a single point of moral worth or intellectual perfection.

Zenon's principles, it seems, as far as action was concerned, differed little from those of Speusippus and Xenocrates; but the different manner of setting them forth was not without effect on the feelings of his followers. Their rule obliged them, when no higher duty interfered, to exert themselves for their own temporal advantage, and that of their friends; it also required them, having done their endeavour, to be perfectly careless as to the result. Success was to be chosen, but not to be coveted, since their moral character was unconcerned in it. Love, pity, sympathy with joy and grief, were forbidden as weaknesses unworthy of a philosopher. Even the ruin of the commonwealth was a thing to be prevented, but not to be sorrowed for. The human mind cannot be occupied for ever with abstract contemplation; it must find some object to rest upon with interest, either in itself or in others; and little knowledge of mankind is required to perceive, that if Stoicism had gone to its utmost conceivable extent in the breast of any individual, the affections it displaced would only have made room for the most enormous and intolerable pride.

These are natural results from the manner in which it pleased the Stoics to express their fundamental doctrines; there was another extravagance which seems uncalled for, even granting the truth of those doctrines in their broadest form. Not only was the wise man completely happy in want, captivity, or tortures, but all who fell short in any degree of that self-sufficiency and impassive perfection, all who retained the slightest shade of human affections, were, in their eyes, entirely and equally miserable. Some might be nearer to perfection than others, and might better hope to attain it; but still, as long as they had not reached it, they were not less wretched. If the rule of absolute wisdom were transgressed, there was no distinction in guilt or misery; and a hope, a fear, a feeling of pity or sorrow, was placed on a level with the murder of a father, or the overthrow of a state.

The Stoics differed from the Academic philosophers in the style of their discourses. The latter cultivated the gift of eloquence, as well as of close reasoning. They thought that in setting forth the excellence of virtue it was necessary to bring it home to the imagination and

affections, and not to be satisfied with forcing the understanding to assent to it as an abstract proposition. The Stoics, on the other hand, disdained to address themselves to aught but the pure and naked intellect, on which they worked by hard and dry, but subtle arguments, proceeding from arbitrary definitions. Herein it is obvious that they misconceived the nature of ethical science, and adopted a method by no means the most conducive to the evidence, any more than to the practical influence, of the conclusions which they sought to establish. For moral investigations are not like those of geometry, where the inquirer is only concerned with the consequences of his definitions; but rather like those of physical science, where the most ingenious reasons are worthless, unless the facts on which they rest be first ascertained. The primary facts on which those theories must rest, which uphold the intrinsic worth of virtue, independently of consequences, are certain inward feelings and convictions of the mind, alleged to be inherent in man's nature. Of these if any man be unconscious he cannot be moved by an argument which takes their existence for granted; and the first step towards his conversion must necessarily be to open his inward eye to perceive them, by awakening the imagination and the benevolent emotions. The Stoics acted as if it were enough to prove that their conclusions followed from their definitions, without having made their hearers feel that any reality existed, of which their definitions were the accurate expression; not considering that, however just and logical the reasoning, if the premises appeared to be unmeaning and chimerical, the conclusions could be nothing better.

Contemporary with Zenon, but younger than he, was Arcesilas, the founder of what was called the new Academy. He professed to return to the principles of Socrates, who had been wont to say that he knew nothing. He had ever in his mouth the deceitfulness of the senses, the strong delusions of fancy and prejudice, the endless multiplicity of human opinions, the undoubting confidence of opposing disputants. There was no mark by which a man could certainly distinguish between a right and an erroneous confidence; nor any conviction so strong and clear, but that impressions as irresistible had been produced in cases where they were palpably

false. Among the novelties introduced by Zenon was the doctrine that a wise man would never form a mere opinion, or at all assent to that which he did not certainly know. This tenet evidently proceeded from the wish to save his wise man from every shade of error. Even in this view it is unnecessary. Opinion must be incident, even to perfect wisdom, when at work upon materials supplied by imperfect knowledge. It is, in fact, a judgment of probability, and if the probability be rightly estimated, the opinion cannot justly be considered as an error, whatever be the event. Arcesilas, however, embraced the proposition to its full extent, but turned it to a different use from that intended by the Stoic; for, having made out, as he conceived, that man could have no certain knowledge, he argued that the perfection of wisdom was to keep clear of all opinions, and to preserve the mind as it were suspended upon every question.

The rigour of his scepticism was somewhat softened by Carneades, the second great prop of the new Academy, and a man ranked by many above the founder. He allowed his wise man to form opinions, and to receive some statements, after due consideration, as probable, though not certain. This, he said, was enough for the guidance of life; and more was inconsistent with the fallibility of man. Many things were, therefore, to be received upon the credit of the senses, remembering, however, that nothing was so distinctly perceived, as to make it impossible that a counterfeit should exist which could not be distinguished from it. A wise man would follow every probability, if there were no opposing probability to make him distrust it. "He is not carved from stone, or hewn from oak; he has a body, he has a mind; he is influenced by reason, he is influenced by sense; so that many things seem true to him; but yet they do not seem to have that distinctive mark of infallible perception, which could warrant his unqualified assent."—*Cicero Academ. Quæst. IV. 31.*

The philosophers of the new Academy were accustomed to argue in support of every proposition indifferently, with the view, as they professed, of discovering on which side the greater probability lay. It is no doubt the duty of a searcher for truth to give full weight to objections; to state the arguments.

against his own opinion with all the force which they seem to him to possess, and to attribute to those which he himself advances, no greater cogency than he really thinks to belong to them. But this was not the sort of impartiality observed by the followers of Arcesilas. They would argue on either side, but in so doing, we have no reason to suppose that they were distinguished above others for a more scrupulous candour, or a more careful avoidance of overstatement. In philosophical discussions, even the spirit of a partisan is better than that of a professional advocate, or of a determined sceptic. It is said of Carneades, that his most intimate friends were unacquainted with his real opinions. This could scarcely have been, had he been an earnest lover of truth. It may have sprung from the fear that his authority might prevent his followers from exercising a proper freedom of inquiry; but more probably from a fondness for displaying his acuteness, without regard to truth or falsehood; or from a delight in increasing uncertainty, and multiplying occasions of triumph over men's credulity. The last is, perhaps, the most fatal error of a speculative mind. A scepticism arising from humility and caution may deserve to be enlightened; but a proud, a willing, a self-complacent scepticism, neither deserves illumination, nor is fitted to receive it.

Arcesilas and Carneades were pitted against the Stoics, as the most vehement upholders of certainty in knowledge; the Cyrenaic and Epicurean philosophers were no less earnest against their doctrines concerning the sufficiency of virtue, and the nothingness of outward things. The former took their name from Aristippus of Cyrene, a hearer of Socrates. Their most remarkable tenets were these;—that pleasure was the only good, and pain the only evil; and that the only facts of which a man could be absolutely certain were his own internal sensations. Little is known of the manner in which they maintained and applied the latter proposition,—the same on which Berkeley has founded that most refined and ingenious train of reasoning, by which he endeavours to establish his ideal theory. Yet as far as our imperfect knowledge may enable us to judge, it seems to have implied far clearer conceptions than were usual in those times, as to the nature of the senses, and of their testi-

mony respecting outward objects. Of the general dimness and confusion of views which prevailed thereupon, a single instance may suffice. Democritus had shown by mathematical reasoning that the sun was many times larger than the earth. This was seriously used as an argument to prove that the senses were not to be trusted; for the sun, said the objectors, appears to us not more than a foot in diameter: as if the eye could form any judgment, right or wrong, of actual magnitude. Epicurus knew not how to vindicate the senses, except by asserting that the sun was no larger than it seemed. Aristippus might probably have answered that the eye had formed a faithful image, and from the apparent magnitude of this, the size of the object might be estimated, if its distance were known. The objectors had neglected the consideration of distance, confounded the size of the object with that of the image, and measured the latter by an arbitrary and wholly inapplicable scale of feet and inches. The fault was not in the eye, but in their manner of dealing with the evidence it furnished; the rashness of which was rebuked by every distant tree or other object, which they had seen to cross the sun on the horizon, and only darken a portion of his disk.

That pleasure was the only good and pain the only evil, was not a tenet first advanced by Aristippus: it had been maintained by most of the sophists anterior to Socrates or contemporary with him, and pushed by them, as has been stated, (p. 90) to the overthrowing of all moral obligations. There seems no reason to believe that the Cyrenaics proceeded to such lengths in licentious audacity; but their ethics could hardly fail to be loose, considering the foundation on which they stood. This applies in part to the Epicureans also, whose fundamental principle was in terms the same, though they explained it in such a manner as to make it comparatively harmless, at some expense, however, of consistency and clearness.

Every animal, said Epicurus, from the time when it is born, seeks pleasure and shrinks from pain: no arguments are needed to establish the principle that the one is to be desired and the other to be shunned, since Nature herself bears witness to it. But a fool looks only to the immediate effect of his actions, a wise man to their remotest consequences. When these are considered,

the paths of virtue will be found to be the pleasantest. Excessive indulgence in sensual delights is to be avoided as injurious to health and to peace of mind ; and labours are to be endured and dangers to be faced, if the objects be worth the inconvenience and hazard. The laws are to be obeyed, for transgression is perilous, and concealment uneasy and precarious ; and even in cases unprovided for by law, an upright and benevolent conduct is to be pursued, for good deeds make friends and bad ones enemies, and the benefits of general confidence and esteem, are greater than those which can be expected to arise from any particular act of fraud or oppression.

In directing the conduct of a wise man under the ordinary trials of life, there is no doubt that rational self-love will generally concur with pure morality. Thus far the Epicureans were consistent and reasonable. But when pressed with harder instances of virtue, which, nevertheless, they professed to admire and approve, they were often reduced to miserable shifts. A soldier volunteers on a perilous service, which is necessary to the safety of his country ; he does so, says Epicurus, for in its safety he knows that his own is contained. But what if the service were certain destruction, whereas in the ruin of his country he might possibly escape ? what is to be said in the case of Leonidas at Thermopylæ ? Perhaps that death is not an evil. But men have been who have lived a life of trouble, discouragement, and obloquy, rather than countenance abuses by which they might have profited in quiet, and without an accent of reproach. This is not an Epicurean virtue. On the contrary, the tendency of the system was to form an easy self-indulgent man, free from violent passions, humane and upright according to the notions of his age and his society ; a placable enemy, a kind and serviceable, but not a devoted friend ; in public life, a lover of peace, a hater of reform, a patron of expedients for putting off state difficulties to the next generation ; a time-server in troubled periods, not only from personal fears and interests, but from the desire to see the turmoil at an end, whatever party might be uppermost.

Epicurus, more to his credit as a moralist than as a reasoner, was not content with this measure of goodness. He could not endure that his wise man

should be placed on a lower pinnacle of moral elevation, or more subjected to the dominion of fortune, than the wise men of other philosophers. His boasts on this subject are not less wild than the wildest paradoxes of the Stoics, and are strangely contrasted with the sentiments he uttered when upholding the sovereignty of pleasure. All good, he said, consisted solely in sensual gratifications, all evil in bodily sufferings, apprehended, remembered, or felt : yet he delivered rules for entirely disregarding the severest bodily pangs, and maintained that the wise man would be able to exclaim in the fire or on the rack, " All this is a mere nothing." This contradiction might possibly have been reconciled by one who looked to a life beyond the grave, and hoped that a painful death might be a short rough passage into happiness and glory. But this belief was entirely excluded by the system of Epicurus, nor was there any proposition which he more confidently affirmed, than that death was absolute extinction.

All pleasures, according to the Epicurean doctrine, relate more or less directly to the body : yet the joys of the mind are greater and more numerous than those arising immediately from sense, since the present moment only comes within the ken of the latter, while the former embraces also the past and the future. Hence, it follows that the proper regulation of the mind is the chief ingredient in happiness. He who places bliss in strong excitement, or in lively sensual enjoyments, must exist in perpetual craving and disquiet ; for neither the nature of man, nor the constitution of outward things, allows such enjoyments to be constant. But he whose passions are controuled by wisdom and sobriety, may live in habitual serenity, and consequently in happiness ; for mere serenity of mind, undisturbed by pain or regret, is, as Epicurus asserted in opposition to the Cyrenaics, a pleasure, and one of the very highest order. Such a man will be free from fear and anxiety, for he covets only what nature needs, which can seldom be difficult to procure. His mind will be full of pleasing recollections ; for it rests with ourselves to remember and to forget, and a wise man will cherish every gratifying thought, and carefully banish all such as are irksome. His habits will be such as to make him little subject to bodily disease : yet if it come he will bear it

patiently, remembering that the sharpest pains are short, and the longest light, and thinking on his past pleasures, the delight of which will fully suffice to give him solace. Thus, however situated, the life of a wise man will have more of pleasure than of pain: or if, by any strange and overwhelming calamity, the preponderance should be reversed, at least when life has become an evil, he is able, and will be ready to quit it.

Since Epicurus professed to ground the excellence of pleasure on the common opinions and natural impulses of uninstructed men, it might have been expected that he would use the term in the sense which men in general attach to it. It will hardly be asserted that it is thus used, when absence of pain is said to be the greatest pleasure. That it lies in man's will what he will remember and what he will forget, and that the sting of pain may be effectually blunted by the recollection of pleasures already enjoyed, are positions which every man's experience will immediately contradict. That sharp pains are short, and long ones tolerable, will serve the turn but little better. Short and long are relative terms; and by a man who stretches his views into eternity, a pain may well be said to be short which attends him from the cradle to the grave. But to one who only looks to a period of forty or of fourscore years, it is much that ten years of that should be embittered by the gout or the stone; far more that the whole should be chequered with sufferings arising from hereditary disease. Thus weak must be every attempt to ground the loftier and more difficult virtues on that part of man's nature which is common to him with the beasts that perish. The fair weather sailor may equip himself tolerably from the store-house of Epicurus; but stronger tackle will then be needed, when the masts are bending and the cordage straining in the storm.

Epicurus neglected logic, but attended much to physics, adopting in the main the atomic system of Democritus, but with some alterations, generally for the worse. He was ignorant of mathematical science, in which Democritus excelled; and not only ignorant, but insensible of its value. He asserted, with Democritus, that all things were material, that matter was eternal, that there was no creating or directing Providence. There were gods, he said, eternally, infinitely, and unalterably happy, but

placed apart from the world, and not disturbed in their happiness by any thought or care relating to it. Nothing was to be hoped or feared from them, but yet it was fit to worship them, on account of the excellency of their nature.

With many glaring inconsistencies; with an understanding not remarkable, as far as we can judge, either for largeness of grasp or for subtlety of discrimination; and often with a very blamable looseness of reasoning and rashness of assertion; Epicurus, nevertheless, became the idol of a numerous sect throughout the then civilized world, by whom he was held in reverence greater than was ever paid even to Plato or Aristotle, till the latter obtained a set of worshippers, not less devoted, in the schoolmen of the middle ages. This was not the effect of eloquent writing, for his style was plain and inelegant. Unfortunately, all his works are lost, so that we cannot tell how far the faults of the outline may have been compensated by the merits of the filling up; but it seems most likely that his leading excellencies were strong practical good sense, displayed in observations on human life and conduct, and inexhaustible fertility in arguments and illustrations, such as might best bring home to ordinary minds the pleasures and rewards of virtue. To these was added the influence of prepossessing manners, and singularly amiable temper and character. Besides, his principles were inviting in themselves, both as they tasked the intellect and attention less highly than those of other philosophers, and also as they seemed to give a somewhat greater latitude in practice. Yet, if any one accused them of sanctioning licentiousness, a ready answer was furnished by the temperate and blameless lives of the founder and his friends. And, indeed, if the rule of the sect was less rigorous than that of others, it seems however, in some points at least, to have been better observed. The Epicureans, as a body, were long remarkable for brotherly kindness towards each other: and if their discipline failed to nerve the mind to the sterner virtues, on the other hand it encouraged natural affection, instead of repressing it, and was free from the danger, which ever attended the affected severity of Stoicism, that, in attempting to make heroes, it might only make hard-hearted hypocrites.

Amidst these ethical and metaphysical

discussions, the field of mathematical science did not lie waste. In the time of Solon, Thales of Miletus had brought from Egypt some important truths in geometry and astronomy. He made known many properties of triangles and circles; asserted the roundness of the earth; explained the nature of eclipses; and actually foretold an eclipse of the sun. His discoveries were pursued by the Ionic philosophers, his disciples. Pythagoras too, however devoted to ethics and theology, did not neglect mathematics or physics. He enlarged the bounds of geometry, and introduced the sciences of numbers and music, though his arithmetical speculations were perverted by dreams of mysterious virtue in certain numbers and combinations. Unfortunately, from his travels, which are said to have reached even to India, he brought back, with the learning of the Egyptians and Chaldeans, their fondness for mysteries and allegorical disguises. His opinions, and those of his followers, were often set down in verse and enigmatically worded, so that it is difficult to ascertain the real extent of their knowledge. They certainly made no mean advances in arithmetic and geometry. In applying these sciences to nature, they seem to have been less happy. Nevertheless, they lighted on some truths as to the system of the world, which their successors rejected; such as that the earth revolves round its axis, and both it and the planets round the sun.

Mathematical studies were pursued by Plato and many of his followers in a spirit like that of the Pythagoreans. He himself is said to have invented the method of analysis, which ascertains the truth or falsehood of a proposition, by examining what will follow from the supposition that it is true. If we thus arrive at falsehood, the proposition must be false; if at known truth, we presume it to be true; and if so, by reversing the steps of the argument, it may be formally demonstrated. As an instrument of discovery, it is plain, that analysis by far excels synthetical reasoning, or that which proceeds from known truths towards the thing to be proved; since, in the latter case, a way is to be found to one particular result, while, in the former, any result, if a known one, will answer the purpose. By this and other discoveries, among which were the leading properties of the three conic sections, the school of Plato much ad-

vanced geometry. Like the Pythagoreans, they were careless observers of nature, and bigoted to notions of symmetry and numerical analogy; but they maintained, against the juster guesses of the others, that the earth was at rest, and the sun, the planets, and the heavenly sphere all revolved about it. They here agreed with Aristotle and his disciples, who seem, however, to have been better observers and reasoners on nature, though not equalling them in pure mathematics.

The most famous seat of mathematical science was the newly founded colony of Alexandria. The commercial greatness of the city concurred with the munificence of its princes in drawing thither men of learning who had their fortunes to seek. The first Ptolemy, the son of Lagus, spared no expense in tempting the most noted teachers to his court. There was plenty, security, and liberal treatment for those who were driven from their homes by want or faction; all sects were alike welcome, and every question that divided the Athenian schools was discussed no less ably in the capital of Egypt. The work began by the founder of the dynasty was zealously pursued by Ptolemy Philadelphus, his son, and princely establishments were formed to promote it. Under them arose the famous library at Alexandria, by far the first in the world, till it was unhappily burnt when the city was taken by the Arabs. They also established a college, which still subsisted under the Roman emperors, where learned men were maintained at the public cost in undisturbed devotion to science. Every study was here encouraged; but those for which the Alexandrine school was most especially distinguished, besides mathematics, were criticism, philology, and antiquities.

Here flourished Euclid, the author of the well-known *Elements of Geometry*, a treatise yet unmatched in clearness, precision, and logical strictness of deduction. Besides arranging and consecutively proving the fundamental truths of the science, he did much to enlarge its scope; though in this we cannot estimate his merit, not possessing the works that would most have shown it. His attention was chiefly turned to pure mathematics; but others of the Alexandrine philosophers were successful cultivators of physical science, especially of astronomy; and they seem to have been the first who practically

acknowledged the importance of accurate and extensive observation.

Meantime there arose in Sicily a mathematician, who not only outstripped all his contemporaries, but went near to anticipate some of the discoveries which have done most honour to modern science. Archimedes of Syracuse extended the bounds of geometry in every direction, but especially where it treats of curvilinear figures and solids. He made a near approximation to the proportion that the circumference of a circle bears to its diameter, and gave the first example of exactly determining the area of a curve, by proving that of a parabola equal to two-thirds of the circumscribed parallelogram. He proved that the paraboloid is equal to half and the sphere to two-thirds of its containing cylinder, on the last of which discoveries he prided himself so much, that he directed the figures of a sphere and a cylinder to be sculptured on his tomb. If he was great as a geometer, he was to the full as eminent as a mechanician. Before his time mechanics and hydrostatics could hardly be deemed to exist as sciences; he established both on sure grounds, and enriched them with valuable discoveries. He struck out the idea of a centre of gravity, and used it very ingeniously in determining the conditions of equilibrium in solid bodies. He first laid down the principle that a body plunged in a fluid loses weight equal to that of the fluid it displaces; showed how to ascertain the specific gravities of substances; and solved many curious problems respecting the equilibrium of bodies in a fluid.

He was no less distinguished as a practical mechanic, though many of his most admirable inventions perished with him, through a prejudice he had adopted from the Pythagoreans and Platonists, who deemed it beneath the dignity of a philosopher to keep any record of such contrivances, or to treat them as aught but matters of recreation, in the intervals of his search for abstract truth. He is said to have suggested the power that is gained by the combination of movable pulleys. But his greatest triumph was the defence of Syracuse, when besieged in the second Punic war by the Roman general Marcellus. Superior force in the beleaguering army, and eminent ability in the commander, were baffled merely by the genius of Archimedes. His skill

disconcerted all the projects of the hostile engineers, while they were unable to guard against his more formidable engines. If the Roman ships came near the walls, they were burnt, sunk, or disabled; if the soldiers advanced, they were transfixed with darts, or crushed with masses; at last they absolutely refused to expose themselves to the terrible effect of the Syracusan missiles. It is said that the philosopher's optical science was called to aid, and that he actually burnt the enemy's ships, by so placing a number of mirrors as to throw the sun's rays into a focus upon them. That this is possible has been proved by modern experiments; that it actually took place is hard to believe, considering the extreme difficulty of adjustment, and the chance that the labour of hours might be frustrated by a change in the position of the ships. The fact is vouched by many writers, but discredited by the silence of Polybius. Thus much is certain, Marcellus was obliged to convert the siege into a blockade. The city was ultimately taken by surprise. Archimedes perished in the tumult of the storming, against the wish and order of the Roman leader.

About this time Eratosthenes and Apollonius were flourishing in Alexandria. The first was an eminent geometer and astronomer, a rhetorician, a poet, an antiquary, and the father of the common system of early chronology. He attempted to calculate the size of the earth, by observing the zenith distance of the sun at Alexandria at noon on Midsummer day, when upright objects cast no shadow at Syene, which was nearly on the same meridian. He thus ascertained the difference of latitude, from which, the distance of the places being known, it was easy to compute the circumference of the globe, supposing the observations accurate. He left many valuable works, which are mostly lost, both in astronomy and in pure mathematics. In the latter, however, he was surpassed by Apollonius, who seems to have been justly considered as the first of ancient geometers, excepting Archimedes. We can partly estimate the merit of Apollonius by one of his chief works—the *Treatise on Conic Sections*, which is extant.

From his death mathematics seem to have been nearly stationary, till the time of Diophantus, supposed the inventor of algebra, who lived about the

fourth century of the Christian era. Astronomy, meantime, was much advanced by Hipparchus, and afterwards by Ptolemy, and a few words upon their labours shall conclude this subject. They determined many important points with accuracy, before unknown; made observations unwontedly extensive and precise; and built on them hypotheses concerning the revolutions of the heavenly bodies, which accounted for all the greater irregularities, and gave the means of assigning their apparent motions with no wide departure from the truth.

Hipparchus (who flourished about B. C. 160) computed the length of the solar year more exactly than had yet been done, by comparing an observation he made of the moment when the sun came to the meridian, with one made by Aristarchus of Samos 145 years before. He came nearer than his predecessors to ascertain the comparative magnitudes of the sun, moon, and earth, by observing the apparent diameters and horizontal parallaxes of the sun and moon, and the diameter of the earth's shadow when the moon was passing through it. To account for the irregular apparent motion of the sun, he supposed it to revolve in an eccentric circle, or one where the earth was not in the centre; and he so adjusted his hypothesis, as to calculate solar tables from it with some approach to exactness. He made some steps towards a theory of the moon. He first catalogued the stars; and, comparing his own with earlier observations of their positions, he discovered that change in the place of the equinoctial points, which we call the precession of the equinoxes.

In the second century of the Christian era, Ptolemy took up the work. He made a fuller catalogue of the stars. He adopted Hipparchus's theory of the sun, and constructed one of the moon and the planets. The moon, he imagined, revolved in a circle, which he called its epicycle, round a centre which itself revolved in an eccentric circle round the earth; while the eccentric itself had also a revolution, so as to change the position of the apsides (points nearest to and furthest from the earth.) His contrivances to account

for the motions of the planets were of like nature, and in some of their details still more complex, but he certainly showed exceeding ingenuity in accounting for appearances very difficult to bring under any general laws that suppose the earth the centre of the universe; and produced a system of astronomy sufficient at least for the more obvious practical uses of the science. His system continued to be generally received till within the last two hundred years.

CONCLUSION.

The history of the Greeks has been carried down to the overthrow of their independence, and a sketch has been given of their condition under Roman rule, and of the state of science and philosophy, their still remaining glories. The sects that afterwards arose, the Eclectics and later Platonists, belong to a different age and order of things. The fortunes of Greece now merge in those of Rome. It is true, that after the seat of dominion was transferred from Rome to Byzantium (Constantinople) the sceptre came gradually again into the hands of the Grecian race; but still the story of the Eastern empire may best be treated as a sequel to that of Rome. That empire, long sunk in debility and corruption, gave way at last to the power of the Turks; and the Greeks have long been under their dominion, subdued and trampled on, rather than regularly governed, and subject alternately, sometimes at once, to all the evils of oppression and anarchy. We have seen the progress of their liberation, from the first apparently hopeless struggle to the present time, when a portion at least seems established in independence. It rests with them, under Providence, to make their independence profitable to national happiness and virtue. They have the deeds of their forefathers as a light to cheer, a beacon to warn, perhaps an ignis fatuus to mislead: let them read to judge and choose, and not blindly to imitate. The faults of their fathers will be less excusable in them, who enjoy the benefits of a better religion, and live in an age when wiser maxims of government have been repeatedly propounded and sometimes exemplified.

CHRONOLOGICAL TABLE.*

B. C.		Olymp.	
1080	1856		Foundation of Argos.
1080	1556		Foundation of Athens.
1045	1493		Phœnicians settle in Greece and Asia Minor; under the name of Cadmeians, Curetes, &c.
1015	1406		Minos reigns in Crete.
1007	1497		Amphictyonic council instituted.
1006			Minos destroys Pirates.
993			Pelops settles in Peloponnesus.
988			Minos makes war on the Athenians.
968	1234		Reign of Theseus in Attica.
964	1485		Arrival of Danaus in Greece. N. B. This date must be placed by Newton much too low, since the legends concerning him plainly mark him as very ancient, and especially as prior to Pelops.
942	1280 about		Orpheus establishes orgies.
937	1263		Argonautic expedition.
927	1222		Accession of Atreus to the throne of Mycenæ.
919	1201		Accession of Agamemnon.
914	1193		Trojan war begun.
904	1184		„ ended.
870	907		Age of Homer and Hesiod.
844	1124		Æolic migration. Another and larger migration took place in consequence of the return of the Heracleidæ.
824	1104		Return of the Heracleidæ.
804	1104		Death of Codrus. Medon first perpetual archon.
794	1044		Ionic migration.
776	{ 884		Iphitus establishes the Olympic festival.
	{ 776	1 1	Coræbus victor in the foot race. Hence the Olympiads are reckoned.
708	884	18 1	Legislation of Lycurgus.
652	743	32 1	Beginning of the first Messenian war.
647	754	33 2	Charops, first decennial archon.
607	685		Beginning of second Messenian war.
607	684	48 2	Creon, first annual archon.
572	623	52 1	Legislation of Dracon
562	594	54 2	Legislation of Solon.
550	560 (Clinton)	57 3	Peisistratus gains the government of Athens.
544	546	59 1	Sardis taken by Cyrus.
538	538	60 2	Babylon taken by Cyrus. Here the two systems come together.
529		62 4	Death of Cyrus.
527		68 2	Death of Peisistratus.
519		65 2	Platæa puts itself under the protection of Athens.
514		66 3	Death of Hipparchus.
510		67 3	Expulsion of the Peisistratidæ.
499		70 2	Beginning of the Ionian war, and burning of Sardis.
494		71 3	Miletus taken.
490		72 3	Battle of Marathon.
486		73 3	Revolt of Egypt. Recovered B. C. 484.
480		75 1	Battles of Thermopylæ, Artemisium, and Salamis. Victory of Gelon at Himera.

* The early chronology of Greece is very uncertain. The dates in the first column are those assigned by Newton; in the second, those of the common chronology. Until the time when the two systems coincide, the Olympiads are given according to Newton. Mr. Clinton's dates have been adopted for the period to which his work extends, that is, from the usurpation of Peisistratus to the invasion of Greece by the Gauls.

- . Olymp.
 j 75 2 Mardonius occupies Athens, ten months after its occupation by Xerxes. Battles of Plataea and Mycale.
 177 75 4 Commencement of Athenian empire.
 471 77 2 Themistocles banished by Ostracism, five years before his flight to Persia.
 466 78 3 Siege of Naxos. Flight of Themistocles. Battles at the Eurymedon.
 465 78 4 Revolt of Thasos. Reduced B. C. 463.
 464 79 1 Earthquake at Sparta. Revolt of Helots. Beginning of third Mesenian war. Ended B. C. 455.
 461 79 4 Ostracism of Cimon.
 460 80 1 Revolt of Inaros, and war in Egypt. Ended B. C. 455.
 457 80 4 Battles between the Athenians and Corinthians near Megara. Battle of Tanagra.
 456 81 1 Battle of Ctenophyta, sixty-two days after that at Tanagra. Recall of Cimon.
 450 82 3 Five years' truce between Athens and Lacedæmon.
 449 82 4 Death of Cimon.
 447 83 2 Battle of Coroneia. About eighteen months after.
 445 83 4 Revolt of Eubœa and Megara from Athens. Eubœa recovered before the end of the year. Thirty years' truce.
 443 84 2 Athenians send a colony to Thurium, the ancient Sybaris.
 440 85 1 Samian war.
 435 86 2 Sea-fight between the Corinthians and Corcyræans.
 433 86 4 Corcyræan embassy to Athens.
 432 87 1 Sea-fights off Corcyra, in the spring. Revolt of Potidæa, about mid-summer.
 431 87 2 The Thebans attempt Plataea. Beginning of Peloponnesian war. Ended B. C. 404.
 430 87 3 Plague at Athens.
 429 87 4 Surrender of Potidæa. Naval victories of Phormion. Death of Pericles. Siege of Plataea.
 428 88 1 Revolt of Mitylene.
 427 88 2 Surrender of Plataea. Corcyræan sedition.
 425 88 4 Occupation of Pylos. Capture of the Lacedæmonians in Sphacteria a little more than seventy days after.
 424 89 1 Cythera occupied by the Athenians. Campaign of Brasidas in Thrace.
 423 89 2 Truce for a year.
 422 89 3 Renewal of hostilities. Deaths of Brasidas and Cleon.
 421 89 4 Fifty years' truce concluded.
 420 90 1 Alliance of Athens with Argos.
 416 91 1 Siege and surrender of Melos.
 415 91 2 Athenian expedition to Sicily.
 413 91 4 Defeat of the Athenians in Sicily.
 412 92 1 Revolt of Lesbos, Chios, and Erythræ.
 411 92 2 Revolution of the four hundred.
 407 93 2 Return of Alcibiades to Athens.
 406 93 3 Battle of Arginusæ. Dionysius becomes master of Syracuse.
 405 93 4 Battle of Ægospotami.
 404 94 1 Surrender of Athens. Tyranny of the Thirty. Their deposition after eight months' rule.
 403 94 2 End of civil war, and restoration of democracy at Athens.
 401 94 4 Expedition of Cyrus. Battle of Cunaxa.
 399 95 2 Death of Socrates.
 397 95 4 Truce of Dercyllidas in Asia.
 396 96 1 Agesilaus sent into Asia.
 394 96 3 Recall of Agesilaus. Battle of Coroneia.
 393 96 4 Corinthian sedition. Long walls of Athens restored by Pharnabazus and Conon.
 389 97 4 Death of Thrasybulus.
 387 98 2 Peace of Antalcidas.

B. C.	Olymp.	
386	98	3 Restoration of Plataea.
385	98	4 Siege of Mantinea by Agesipolis.
382	99	3 Beginning of the Olynthian war. Seizure of the Cadmeia.
379	100	2 End of the Olynthian war. Recovery of the Cadmeia by the Theban exiles.
378	100	3 Attempt of Sphodrias on the Peiræus.
376	101	1 Victory of Chabrias off Naxos.
374	101	3 Expulsion of the Plateans. Peace made and broken by Lacedæmon.
373	101	4 Defeat of Mnasippus in Corcyra.
371	102	2 Peace between Athens and Lacedæmon. Battle of Leuctra. Foundation of Megalopolis.
370	102	3 Murder of Jason, tagus of Thessaly.
369	102	4 First Theban invasion of Laconia. Restoration of the Messenians.
367	103	2 Death of Dionysius.
366	103	3 Expedition of Epaminondas into Achaia.
365	103	4 War of Arcadia with Elis.
364	104	1 Battle of Olympia.
362	104	3 Battle of Mantinea.
359	105	2 Accession of Philip.
358	105	3 Amphipolis taken by Philip.
357	105	4 Revolt of Rhodes, Chios, &c. Social war begun. Ended B. C. 355. Phocian war begun.
356	106	1 Expulsion of Dionysius the younger.
353	106	4 Death of Dion.
352	107	1 Death of Onomarchus. War of Lacedæmon and Megalopolis.
350	107	2 Expedition of Phocion into Eubœa, and battle of Tamynæ.
349	107	3 Olynthian war begun.
347	108	1 Olynthus taken by Philip.
346	108	2 Peace between Philip and the Athenians. End of the Phocian war.
344	109	1 Expedition of Timoleon. In the next year he gains possession of Syracuse.
342	109	3 Expedition of Philip into Thrace.
340	110	1 Philip besieges Selymbria and Byzantium.
339	110	2 War between Philip and the Athenians. Victory of Timoleon at the Crimesus.
338	110	3 Philip general of the Amphictyons. Battle of Chæroneia.
337	110	4 Death of Timoleon.
336	111	1 Murder of Philip.
335	111	2 Thebes destroyed by Alexander.
334	111	3 Alexander crosses the Hellespont. Battle of the Granicus.
333	111	4 Battle of Issus.
332	112	1 Siege of Tyre. Conquest of Egypt. Foundation of Alexandria.
331	112	2 Battle of Gaugamela or Arbela. Agis king of Lacedæmon defeated and slain by Antipater.
330	112	3 Murder of Darius.
327	113	2 Invasion of India.
326	113	3 Alexander commences his return. Voyage of Nearchus.
323	114	2 Death of Alexander. Lamian war.
322	114	3 Submission of Athens to Antipater.
321	114	4 Deaths of Craterus and Perdiccas.
318	115	3 Death of Antipater.
317	115	4 Death of Phocion. Arrhidæus is put to death by Olympias. Agathocles becomes tyrant of Syracuse.
315	116	2 Death of Eumenes. Death of Olympias. Cassander rebuilds Thebes.
312	117	1 Seleucus recovers Babylonia. (From hence the era of the Seleucids commences.)
310	117	3 Agathocles lands in Africa.
307	118	2 Demetrius Poliorcetes admitted into Athens. Agathocles quits Africa.

B. C.	Olymp.	
306	118 3	Antigonus, Lysimachus, Seleucus, and Ptolemy, assume the title of king.
304	119 1	Siege of Rhodes by Demetrius, begun in the spring, and continued for a year.
301	119 4	Battle of Ipsus.
299	120 2	Siege of Athens by Demetrius.
296	121 1	Death of Cassander.
294	121 3	Demetrius king of Macedonia.
289	122 4	Death of Agathocles.
287	123 2	Demetrius driven by Pyrrhus from Macedonia.
286	123 3	Pyrrhus driven from Macedonia by Lysimachus.
283	124 2	Deaths of Demetrius and Ptolemy.
281	124 4	Lysimachus defeated and slain by Seleucus.
280	125 1	Seleucus murdered by Ptolemy Ceraunus. Pyrrhus passes into Italy. Rise of the Achaian league. Ptolemy Ceraunus defeated and slain by the Gauls.
279	125 2	Irruption of the Gauls into Greece.
272	127 1	Pyrrhus attacks Lacedæmon.
271	127 2	Pyrrhus is slain at Argos.
268	128 1	Antigonus Gonatas takes Athens.
251	132 2	Sicyon joins the Achaian League.
243	134 2	Achaian League joined by Corinth, Megara, Træzen, and Epidaurus.
240	135 1	Death of Agis, king of Lacedæmon.
239	135 2	Death of Antigonus Gonatas.
232	137 1	Megalopolis joins the Achaian League.
229	137 4	Death of Demetrius, the son of Antigonus Gonatas.
226	138 3	War of Cleomenes with the Achaians.
225	138 4	Revolution effected by Cleomenes in Sparta.
223	139 2	Battle of Sellasia, and flight of Cleomenes from Greece.
221	139 4	War between the Ætolians and the Achaians, with Philip, the son of Demetrius. Ended <small>n. c.</small> 217. Death of Cleomenes.
215	141 2	Death of Aratus.
211	142 2	Alliance of Rome with the Ætolians and Lacedæmonians, against Philip and the Achaians.
208	143 1	Machanidas, tyrant of Lacedæmon, slain by Philopœmen. General peace.
205	143 4	War between Nabis and the Achaians. War between Philip and the Romans and Ætolians.
199	145 2	The Achaians abandon Philip, and ally themselves with Rome.
198	145 3	Battle of Cynoscephalæ. Peace between Philip and the Romans.
196	146 1	Peace made between Nabis and the Romans and Achaians.
193	146 4	War of Antiochus and the Ætolians against the Romans. Death of Nabis. Lacedæmon enters the Achaian League.
192	147 1	Defeat of Antiochus at Thermopylæ.
190	147 3	Submission of the Ætolians to Rome.
189	147 4	Abolition of the laws of Lycurgus.
184	149 1	Death of Philopœmen.
180	150 1	Death of Philip.
172	152 1	War between the Romans and Perseus the son of Philip. ¹
169	152 4	Battle of Pydna. Conquest of Macedonia.
148	158 1	War between the Romans and Achaians.
147	158 2	Corinth taken. Conquest of Achaia.

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HISTORY OF THE AMERICAN REVOLUTION

§ 1. *Settlement of British America.*

THE discovery of the western hemisphere, effected by the bold and persevering genius of Christopher Columbus, in the year 1492, gave a new impulse to European activity; and the splendid conquests of the Spaniards in the West Indies, and in South America, excited the emulation of the other maritime powers of Christendom. Our ancestors were not dilatory in their endeavours to enter upon this new path to glory and wealth; for we find that, in the year 1498, John Cabot, by virtue of a commission from Henry VII., took formal possession, in the name of that monarch, of a considerable portion of the continent of North America. No attempt, however, was made to establish a colony in that country till the reign of Queen Elizabeth, when Sir Humphrey Gilbert and Sir Walter Raleigh, in the years 1578 and 1584, formed settlements there, which were soon wasted by famine, by disease, and by the arrows of the natives, who, as heathens, were counted as nothing in the royal grants under which the adventurers acted. The first permanent British settlement was established in the reign of King James I., under whose auspices a company of adventurers built James Town, on the northern side of James River. This colony, however, continued for a long time in a feeble state. It was founded A. D. 1607; and, though it received continual accessions of new settlers, its population, in the year 1670, amounted to no more than 40,000 souls.

The Virginian colonists were prompted to quit their native country by the hope of bettering their temporal condition. A higher motive gave rise to the colonization of the northern portion of the new continent. After the passing of the Act of Uniformity, in the reign of Elizabeth, the Puritans had suffered a grievous persecution; to escape from which a small body of them had fled, in the year 1606, into Holland. Unwilling, however, entirely to sever themselves from the land which gave

them birth, they applied to their sovereign, King James, beseeching him to permit them to establish themselves in his North American dominions, in the full exercise of liberty in religious matters. With this their request, in its full extent, James refused to comply. All that they could obtain from him was a promise that he would connive at their infringements of the statutes, the operation of which had driven them into voluntary exile. On the faith of the royal word to this effect, they embarked, to the number of 101, in the month of September, 1620, and arriving at Cape Cod in the following November, soon afterwards fixed themselves in a place of settlement, which they called New Plymouth, and which, it must be observed to their honour, they purchased from the natives. Dreadful were the difficulties with which this handful of religionists had to struggle; landing as they did in the depth of winter, and exposed as they were, notwithstanding their conciliatory disposition, to the hostility of the natives. But, supported by the principles of piety, and determined, at any price, to purchase religious freedom, they maintained their ground; and being from time to time recruited by new migrations of their persecuted brethren, they, by degrees, spread themselves over the province of Massachusetts.

It too often happens that religion produces dissension, and that those who have suffered persecution, when they have obtained power, become persecutors themselves. This was the case with the principal inhabitants of the colony of Massachusetts. Falling into the common error of the times, in thinking that uniformity of sentiment on the subject of religious doctrines was required by the truth of the gospel, and by a regard to the peace and welfare of society, they established it as a rule of government, "that no man should be admitted to the freedom of their body politic, but such as were members of some of their churches;" and they afterwards passed a resolution, "that none

but such should share in the administration of civil government, or have a voice in any election." In this instance, however, as in many others, evil was productive of good. The discontented sectarians sought other settlements, and founded the colonies of Connecticut, Rhode Island, and New Hampshire.

Whilst the once persecuted Protestants thus gave a sad proof that their sufferings had not taught them mercy, it was reserved for a Roman Catholic nobleman to give to the new world a striking example of this happy docility. In the year 1632, Lord Baltimore obtained a charter for a new colony, the first settlers of which consisted chiefly of Roman Catholic gentlemen; and, having established his band of emigrants in Maryland, he so exerted his influence with the members of the assembly of the new province, that they laid it down as a fundamental principle of their constitution, "that no persons professing to believe in Christ Jesus should be molested in respect of their religion, or in the free exercise thereof." His lordship's enlightened policy was eminently successful. Under the nurture of religious liberty, his infant settlement soon advanced rapidly towards maturity.

In the reign of Charles II., royal charters of the most liberal tenor were granted to Connecticut, Rhode Island, and Providence Plantations; and patents were also granted to Lord Clarendon and the Duke of York, bestowing on the former a right to form plantations in the district now comprehending North and South Carolina and Georgia, and delegating to the latter the same right as respecting New York and New Jersey; and, finally, a patent was issued, authorizing the celebrated William Penn to colonize Pennsylvania and Delaware.

The English emigrants who settled in North America were a class of people very different from the Spaniards, who subdued the southern continent. They did not leave their native shores for the purpose of invading and plundering rich provinces and wealthy cities; but they sought prosperity by the painful arts of industry and economy. Purchasing land from the aborigines, they at first devoted themselves to the culture of the soil; and, in process of time, those who continued to reside on the sea-shore, or on the banks of navigable rivers, addicted themselves to commerce. Their success in this pursuit is evinced by the

fact, that though in the year 1704 the imports of the province of Pennsylvania amounted only to 11,499*l.* sterling, in 1772 they were increased to the value of 507,909*l.*, and in the same year the whole of the exports from Great Britain to her North American colonies amounted to upwards of 6,000,000*l.* sterling.

Though each colony had its separate constitution, the principles of freedom pervaded them all. In some provinces the governors and the magistrates were elected by the people; and in those, the governors and chief officers of which were appointed by the crown, the power of these functionaries was controlled by assemblies, the members of which were chosen by the freeholders, who were too numerous to be bribed, and too independent in their circumstances to be swayed by influence. Throughout the whole of the union there was not found a single proprietor of a borough, nor an interest to nurture the principles of bigotry and passive obedience. When the first settlers took possession of the country, they brought with them all the rights of Englishmen, and those rights they were jealous in maintaining. Their interior concerns were regulated by their representatives in assembly; but in consideration of their origin, and of the protection against foreign enemies, which they received from the mother country, they cheerfully submitted to the obligation of exclusively trading with her, and of being bound by all the laws touching commerce which might be passed by the British parliament. The limits of the authority of parliament they were not critical in canvassing, with one exception, namely, claiming to be independent of that body in the matter of internal taxation. They maintained, conformably to one of the most established principles of the British constitution, that an assembly in which they were not represented had no right to burden them with imposts.

§ 2. War of 1756.

The growing power of the British colonies in America was strikingly evinced in the year 1745, when a force of 5000 men, raised and equipped by the single state of Massachusetts, and acting in concert with a British armament from the West Indies, took Louisbourg from the French. The success of this expedition so much excited the jealousy of the government of France, that, after the termination of

the war in which Louisbourg was taken, they dispossessed the Ohio Company of the settlements which it had formed on the river of that name, alleging that the territory in question was part of the dominions of his most Christian Majesty. It was on this occasion that George Washington, then a major in the Virginian militia, first drew his sword in hostility. At the head of 300 men he defeated a party of French; but being afterwards attacked by a superior force, he was obliged to surrender, receiving, however, honourable terms of capitulation.

A war with France now seeming inevitable, a general meeting of the governors and leading members of the provincial assemblies was held at Albany, in the state of New York. This meeting proposed, as the result of its deliberations, "that a grand council should be formed of members, to be chosen by the provincial assemblies; which council, together with a governor to be appointed by the crown, should be authorized to make general laws, and also to raise money from all the colonies, for their common defence." The British government seem to have viewed this proposal with jealousy, as a step towards independence. They disapproved of the projected mode of the election of the members of the council; nor were they satisfied with the plan of raising the requisite supplies by acts of the colonial legislatures; and they proposed that "the governors of all the colonies, attended by one or two members of their respective councils, should, from time to time, concert measures for the whole colonies; erect forts and raise troops, with a power to draw upon the British treasury in the first instance; but to be ultimately reimbursed by a tax to be laid on the colonies by act of parliament." This counter proposal was strenuously opposed by the colonists, who refused to trust their interests to governors and members of councils, since almost the whole of the former, and the great majority of the latter, were nominated by the crown. As to the plan of raising taxes in the colonies by the authority of the British parliament, they rejected it in the most peremptory manner. In the discussions which took place on this occasion, Dr. Franklin took an active part, and in a letter to Mr. Shirley, governor of Massachusetts, as Dr. Ramsay observes, "he anticipated the substance of a controversy, which for twenty years

employed the pens, tongues, and swords of both countries." In his correspondence with the governor, the American patriot intimated his apprehension, "that excluding the *people* from all share in the choice of the grand council, would give extreme dissatisfaction, as well as the taxing them by Act of Parliament, where they have no representation. It is," observes he, with equal candour and good sense—"it is very possible that this general government might be as well and faithfully administered without the people as with them; but where heavy burdens are to be laid upon them, it has been found useful to make it, as much as possible, their own act; for they bear better, when they have, or think they have, some share in the direction; and when any public measures are generally grievous, or even distasteful to the people, the wheels of government move more heavily." On the subject of the general characters of the governors of the colonies, to whom it was thus intended to delegate extraordinary powers, Dr. Franklin thus expressed himself, in terms well worthy the attention of all ministers who are invested with the appointment of such functionaries:—"Governors often come to the colonies merely to make fortunes, with which they intend to return to Britain; are not always men of the best abilities or integrity; have many of them no estates here, nor any natural connection with us, that should make them heartily concerned for our welfare; and might possibly be fond of raising and keeping up more forces than necessary, from the profits accruing to themselves, and to make provision for their friends and dependents." The opposition which their project experienced, induced the British government to withdraw it, and the colonies and the mother country for some time longer acted together in union and harmony. The consequence of this was, that under the vigorous administration of Mr. Pitt, the war, begun in 1756, was terminated by a treaty signed in 1763; according to the articles of which, Canada was ceded to Great Britain by France, and the two Floridas by Spain.

The North American colonies, in general, entered into the war of 1756 with such zeal, that some of them advanced funds for its prosecution to a greater amount than the quota which had been demanded of them by the British government. Others of them, however,

the state of Maryland for instance, had, from local and accidental causes neglected to contribute their share to the requisite supplies. This circumstance, in all probability, led British statesmen to wish to establish a system, by means of which the resources of the colonies might be made available without the necessity of the concurrence of their local legislatures. Accordingly, Mr. Pitt is said to have told Dr. Franklin, that, "when the war closed, if he should be in the ministry, he would take measures to prevent the colonies from having a power to refuse or delay the supplies which might be wanting for national purposes." This declaration is certainly at variance with the doctrines which Mr. Pitt maintained when the question of colonial taxation was afterwards discussed in parliament. But at the latter period that great statesman was no longer minister; and he is not the only politician who has held different language when in and when out of power.

§ 3. *Resolutions of the House of Commons, 10th March, 1764.*

Whatever might be the motives of their conduct, the British ministry, in the year 1764, began to manifest a narrow and jealous policy towards the North American colonies. For a long series of years the commerce of the eastern states had been most beneficially extended to the Spanish and French colonies; to which they transported great quantities of British manufactures, the profits on the sale of which were divided between themselves and their correspondents in the mother-country. This course of trade, though not repugnant to the spirit of the navigation laws, was contrary to their letter. Of this the British ministry took advantage; and by the activity of their revenue cutters, they put a stop to the traffic in question, to the detriment and ruin of many merchants, not only in America, but also in Great Britain. In September 1764, indeed, they caused an act to be passed, authorizing the trade between the North Americans and the French and Spanish colonies, but loading it with such duties as amounted to a prohibition, and prescribing that all offenders against the act should be prosecuted in the Court of Admiralty, where they were deprived of a trial by jury. As an accumulation of the grievances which the colonists felt from this act, its preamble contained

the following words of fearful omen: "Whereas it is just and necessary that a revenue be raised in America, for defraying the expenses of defending, protecting, and securing the same, We, the Commons, &c., towards raising the same, give and grant unto your Majesty," &c.

It is believed by competent judges that the colonists, however disposed to resent this encroachment on their constitutional rights, would have submitted without resistance to the provisions of the act as regulations of trade and commerce. But the ministry soon took a bolder step, by proceeding to impose a direct internal tax upon the colonies by authority of parliament. This measure was vindicated on the following grounds, that the pressure of the payment of the interest of the national debt weighed so heavily on the British community, that it was expedient that by every proper means this burden should be lightened; that a considerable portion of this debt had been contracted in the furnishing of supplies for the defence of the North American colonies; that it was just and reasonable that those colonies should contribute their proportion towards its liquidation; and that the authority of parliament was competent to bind them so to do. The idea of relieving the public burdens by the taxation of distant colonies, was, of course, very popular throughout the British nation; and so little was the right of parliament to impose such taxation at first questioned in Britain, that on the 10th of March, 1764, a resolution to the following effect passed the House of Commons, without any remark, "That towards farther defraying the said expenses, it may be proper to charge certain stamp duties in the said colonies and plantations." Nothing, however, was immediately done in pursuance of this resolution, as ministers were in hopes that the apprehension of the passing of an act founded on it would induce the colonists to raise a sum equivalent to the expected produce of such act, by bills passed in their respective legislative assemblies: but in these hopes they were disappointed. When intelligence of the resolution for laying a tax on stamps arrived in America, the colonists were filled with alarm and indignation. They declared internal taxation of the colonies by the authority of parliament to be an innovation and an infringement on their rights and liberties. If parliament was

authorized to levy one tax upon them, it was authorized to levy a thousand. Where, then, was the security of their property, or what protection could they expect for their dearest interests, from a body of men who were ignorant of their circumstances; between whom and themselves there was no bond of sympathy, and who, indeed, had a direct interest in removing the weight of taxation from their own shoulders to those of the colonists? They were entitled, they affirmed, to all the rights of British subjects, of which the most valuable was exemption from all taxes, save those which should be imposed upon them by their own freely-chosen and responsible representatives. Influenced by the feelings and motives implied in these declarations, instead of passing tax bills, they voted petitions and remonstrances to parliament and to the throne.

§ 4. *Stamp Act, March 22, 1765.*

The supplications and complaints of the colonists were disregarded. In the month of March, 1765, a bill for laying a duty on stamps in America was brought into the House of Commons by Mr. Grenville. This bill was supported by Mr. Charles Townsend, who is reported to have concluded his speech in its favour, in the following words:—"And now will these Americans—children planted by our care, nourished up by our indulgence, till they are grown to a degree of strength and opulence, and protected by our arms—will they grudge to contribute their mite to relieve us from the heavy weight of that burden which we lie under?" To this invidious appeal to the pride and the prejudices of the members of the House of Commons, Colonel Barré thus energetically replied:—"They planted by your care! No! your oppressions planted them in America. They fled from your tyranny to a then uncultivated and inhospitable country, where they exposed themselves to almost all the hardships to which human nature is liable, and, among others, to the cruelty of a savage foe, the most subtle, and, I will take upon me to say, the most formidable of any people upon the face of God's earth; and yet, actuated by principles of true English liberty, they met all hardships with pleasure, compared with those they suffered in their own country, from the hands of those who should have been their friends. They nourished up by your indulgence! they grew by your

neglect of them. As soon as you began to care for them, that care was exercised in sending persons to rule them in one department and another, who were, perhaps, the deputies of deputies to some members of this house, sent to spy out their liberties, to misrepresent their actions and to prey upon them—men whose behaviour, on many occasions, has caused the blood of those sons of liberty to recoil within them—men promoted to the highest seats of justice; some who, to my knowledge, were glad, by going to a foreign country, to escape being brought to the bar of a court of justice in their own. They protected by your arms! they have nobly taken up arms in your defence, have exerted their valour, amidst their constant and laborious industry, for the defence of a country whose frontier was drenched in blood, while its interior parts yielded all its little savings to your emolument. And, believe me, remember I this day told you so, that same spirit of freedom which actuated that people at first, will accompany them still; but prudence forbids me to explain myself further. God knows I do not at this time speak from any motives of party heat; what I deliver are the genuine sentiments of my heart. However superior to me, in general knowledge and experience, the respectable body of this House may be, yet I claim to know more of America than most of you, having seen, and been conversant with that country. The people, I believe, are as truly loyal as any subjects the king has, but a people jealous of their liberties, and who will vindicate them, if ever they should be violated. But the subject is too delicate—I will say no more."

In the House of Lords the Bill met with no opposition; and on the 22nd of March it received the royal assent. In adopting the stamp act as a method of taxing the colonies, ministers flattered themselves that the nullity of all transactions in which the stamps prescribed by the new law were not used would insure its execution. In this confidence they postponed the commencement of its operation to the month of November, 1767. This was a fatal error on their part. Had they prescribed its enforcement immediately on its arrival in America, the colonists might, in their consternation, have been awed into compliance with its provisions; but the long interval between its arrival and its execution, gave them ample time to organize their

opposition against it. Of this they fully availed themselves. On the 28th of May, the assembly of Virginia passed strong resolutions against the stamp act, the substance of which was readily adopted by the other provincial legislatures. Popular pamphlets were published in abundance in reprobation of the power thus assumed by the British parliament; and the proprietors of newspapers, whose journals were destined to be burdened with a stamp duty, raised against the obnoxious statute a cry which resounded from Massachusetts to Georgia. The oppressive measures of ministers were canvassed in town-meetings and in every place of public resort; and the limits of the obedience due to the parent country were freely and boldly discussed in every company. In these proceedings the colony of Virginia led the way, by passing in the house of burgesses, at the motion of Mr. Patrick Henry, the following resolutions:—1st. "That the first adventurers—settlers of this his Majesty's colony and dominion of Virginia—brought with them, and transmitted to their posterity, and all other his Majesty's subjects, since inhabiting in this his Majesty's said colony, all the liberties, privileges, and immunities that have at any time been held, enjoyed, and possessed by the people of Great Britain;"—2dly, "That by two royal charters, granted by King James I., the colonies aforesaid are declared to be entitled to all liberties, privileges, and immunities of denizens, and natural subjects, to all intents and purposes, as if they had been abiding and born within the realm of England;"—3dly, "That his Majesty's liege people of this his ancient colony have enjoyed the right of being thus governed by their own assembly, in the article of taxes and internal police, and that the same has never been forfeited or yielded up, but been constantly recognized by the king and people of Britain;"—4thly, "Resolved, therefore, that the general assembly of this colony, together with his Majesty or his substitutes, have, in their representative capacity, the only exclusive right and power to lay taxes and imposts upon the inhabitants of this colony, and that every attempt to vest such power in any other person or persons whatsoever than the general assembly aforesaid, is illegal, unconstitutional and unjust, and hath a manifest tendency to destroy British as well as American liberty;"—5thly, "Resolved,

that his Majesty's liege people, the inhabitants of this colony, are not bound to yield obedience to any law or ordinance whatever, designed to impose any taxation whatever upon them, other than the laws or ordinances of the general assembly aforesaid;"—6thly, "Resolved, that any person who shall, by speaking or writing, assert or maintain that any person or persons, other than the general assembly of this colony, have any right or power to impose, or lay any taxation on the people here, shall be deemed an enemy to this his Majesty's colony."

The heat engendered by the debates, which in various colonies issued in resolutions to the tenor of the foregoing, at length broke out in acts of violence. The populace of Boston attacked the houses of the officers of government, and destroyed their furniture. Similar excesses took place in some of the other colonies; and the general antipathy of the public against the act sheltered the perpetrators of these outrages from punishment.

These ebullitions were followed by more regular and more effective proceedings on the part of the American patriots. On the 6th of June the assembly of Massachusetts, sensible of the necessity of union to the maintenance of their rights and liberties, invited the other colonial legislative bodies to send deputies to a general congress to be holden at New York on the second Tuesday of October, for the purpose of deliberating on the steps necessary to be taken in the existing circumstances. This summons was readily answered by all the colonies, except those of Virginia, North Carolina, and Georgia, which, however, heartily approved of the purposed measure, but were prevented by their respective governors from meeting for the purpose of electing deputies to attend the congress. The representatives of nine colonies met at the time and place appointed, and after mature deliberation agreed upon a declaration of their rights and a statement of their grievances, and also drew up and signed petitions to the king and to both houses of parliament. Similar steps were taken individually by the colonies which had been prevented from sending deputies to the congress.

§ 5. *Repeal of the Stamp Act, 10th March, 1766.—New attempt at taxation, and resistance to the same.*

The first of November, the day on which

the stamp act was to commence its operation, was ushered in throughout the colonies by the funereal tolling of bells. In the course of the day various processions and public exhibitions were made, all indicative of the abhorrence in which the detested statute was universally held. By common consent, the act was utterly disregarded, and not a stamp was bought to legalize any transaction. Nor did the Americans content themselves with this sullen opposition to the measures of ministers. They entered into solemn resolutions not to import any British manufactured goods till the stamp act was repealed; and an association was formed to oppose the act by force of arms. The latter step had no immediate effect; but the non-importation agreement brought such distress upon the British manufacturers, that they besieged parliament with petitions against the measures which had been adopted for the taxing of the colonies. Thus assailed by the clamours of the colonists and by the complaints of the suffering British merchants, his Majesty's government, at the head of which was now placed the Marquess of Rockingham, for a time wavered at the view of the unpleasant alternative which was set before them, of either repealing or enforcing the obnoxious statute. The former measure was grating to the pride of the nation at large, and the latter evidently involved in its prosecution the danger of a civil war. During this period of hesitation, the state of the colonies was frequently discussed in parliament. It was, in particular, the prominent subject of debate at the opening of the session on the 17th of December, 1765. On this occasion Mr. Pitt seems to have exerted all the energies of his powerful mind to avert the mischiefs which he beheld impending over his country. "It is a long time, Mr. Speaker," said he, "since I have attended in parliament. When the resolution was taken in the house to tax America, I was ill in bed. If I could have endured to have been carried in my bed, so great was the agitation of my mind for the consequences, I would have solicited some kind hand to have laid me down on this floor, to have borne my testimony against it. It is now an act that has passed; I would speak with decency of every act of this house, but I must beg the indulgence of the house to speak of it with freedom. I hope a day may be soon appointed to consider the

state of the nation with respect to America. I hope gentlemen will come to this debate with all the temper and impartiality that his Majesty recommends, and the importance of the subject requires—a subject of greater importance than ever engaged the attention of this House, that subject only excepted, when, nearly a century ago, it was the question whether you yourselves were to be bound or free. In the mean time, as I cannot depend upon health for any future day, such is the nature of my infirmities, I will beg to say a few words at present, leaving the justice, the equity, the policy, the expediency of the act to another time. I will only speak to one point—a point which seems not to have been generally understood—I mean to the right. Some gentlemen seem to have considered it as a point of honour. If gentlemen consider it in that light, they leave all measures of right and wrong, to follow a delusion that may lead to destruction. It is my opinion that this kingdom has no right to lay a tax upon the colonies. At the same time I assert the authority of this kingdom over the colonies to be sovereign and supreme in every circumstance of government and legislation whatsoever. They are the subjects of this kingdom, equally entitled with yourselves to all the natural rights of mankind, and the peculiar privileges of Englishmen. Equally bound by its laws, and equally participating of the constitution of this free country, the Americans are the sons—not the bastards of England. Taxation is no part of the governing or legislative power. The taxes are a voluntary gift and grant of the Commons alone. In legislation the three estates of the realm are alike concerned; but the concurrence of the peers and the crown to a tax is only necessary to close with the form of a law. The gift and grant is of the Commons alone. In ancient days the crown, the barons, and the clergy possessed the lands. In those days the barons and clergy gave and granted to the crown. They gave and granted what was their own. At present, since the discovery of America, and other circumstances admitting, the Commons are become the proprietors of the land. The crown has divested itself of its great estates. The church (God bless it!) has but a pittance. The property of the Lords, compared with that of the Commons, is as a drop of water in the ocean; and this house

represents those Commons, the proprietors of the lands; and those proprietors virtually represent the rest of the inhabitants. When, therefore, in this house we give and grant, we give and grant what is our own. But in an American tax what do we do? 'We, your Majesty's Commons of Great Britain give and grant to your Majesty'—what?—our own property?—No! We give and grant to your Majesty the property of your Majesty's Commons of America! It is an absurdity in terms." "There is," said Mr. Pitt, towards the close of his speech—"there is an idea in some, that the colonies are virtually represented in this House. I would fain know by whom an American is represented here? Is he represented by any knight of the shire in any county in this kingdom? Would to God that respectable representation was augmented to a greater number! Or will you tell him that he is represented by any representative of a borough—a borough which, perhaps, no man ever saw. This is what is called the rotten part of the constitution. It cannot continue a century—if it does not drop it must be amputated. The idea of a virtual representation of America in this House is the most contemptible idea that ever entered into the head of a man." Mr. Pitt concluded by declaring it as his opinion, that whilst the Americans were possessed of the constitutional right to tax themselves, Great Britain, as the supreme governing and legislative power, had always bound the colonies by her laws, by her regulations and restrictions in trade, in navigation, in manufactures, in every thing except that of taking their money out of their pockets without their consent. Of this broad assertion, of the extent of British power over the colonies, Mr. Grenville, the patron of the Stamp Act, took advantage, and maintained that there was no difference in principle between the right to impose external and internal taxation. He asserted that the protection from time to time afforded to America by Britain was a just ground of claim to obedience on the part of the latter from the former, and asked when America was emancipated from the allegiance which she owed to the parent state? Provoked by Mr. Grenville's sophistry, and irritated by his insolence of tone and manner, Mr. Pitt gave utterance to the following declaration—a declaration, no doubt, well calculated

to animate the spirit of freedom on the other side of the Atlantic. "The gentleman tells us that America is obstinate; America is almost in open rebellion. I REJOICE THAT AMERICA HAS RESISTED. Three millions of people, so dead to all the feelings of liberty, as voluntarily to submit to be slaves, would have been fit instruments to make slaves of the rest of their fellow subjects."

Thus did Mr. Pitt plead the cause of the colonies with all the fervour of commanding eloquence. In the course of a few days the same cause was maintained by Dr. Franklin, on the plain and unadorned, but convincing principles of common sense. In the month of February, that celebrated philosopher was examined at the bar of the House of Commons touching the state of America, and the probable effect upon the inhabitants of that country of the imposition of stamp duties. In this examination he evinced an accurate and extensive knowledge of facts—of facts which were calculated to convince any reasonable mind that it was morally impossible to enforce the Stamp Act in the colonies; and that an attempt to effect that object would be productive of the worst consequences to the prosperity of Britain. The train of interrogatories furnished, of course, by himself, afforded him an opportunity of stating his opinions in his accustomed clear and simple manner; and the cross-examination which he underwent on the part of members hostile to the claims of the colonies, gave an occasion for the display of that coolness of temper and promptitude of perception by which he was distinguished. His examination concluded with the following pithy questions and replies:—Q. What used to be the pride of the Americans? A. To indulge in the fashions and manufactures of Great Britain. Q. What is now their pride? A. To wear their old clothes over again till they can make new ones.

The distresses of the commercial and manufacturing interests now co-operating with parliamentary arguments and eloquence, the new ministers, who were not so deeply committed as their predecessors on the subject of the Stamp Act, at length made up their mind to give way. Before the examination of Dr. Franklin, indeed, viz. on the 21st of January, 1766, a motion had, under their auspices, been made in the Commons in a committee of the whole

House to the following effect:—"That it is the opinion of the committee, that the House be moved, that leave be given to bring in a bill to repeal an act passed in the last session of parliament, entitled 'An Act for granting and applying certain Stamp Duties, and other Duties in the British Colonies and Plantations in America towards farther defraying the expenses of defending, protecting, and securing the same, and for amending such parts of the several acts of parliament relating to the trade and revenues of the said colonies and plantations, as direct the manner of determining and recovering the penalties and forfeitures therein mentioned.'" To this resolution the advocates of the obnoxious statute moved an amendment, by which it was proposed to leave out the word "repeal," and insert "explain and amend." But this amendment was rejected by a majority of 118.

On the 24th of February, the above-mentioned proceedings were confirmed by the passing a resolution similar to the foregoing one, but with a view, no doubt, of saving the dignity of the nation and of his Majesty's government, this second resolution was accompanied by others, approving of the conduct of such of the colonists as had used their best exertions for the enforcement of the Stamp Act in America; indemnifying those "who by reason of the tumults and outrages in North America had not been able to procure stamped paper since the passing of the Act for laying certain duties on stamps in the colonies, and had incurred penalties and forfeitures, by writing, ingrossing, or printing on paper, vellum, or parchment, not duly stamped, as required by the said Act." A Bill, founded on these resolutions, was accordingly brought into the House. This Bill, after warm debates, passed both Houses of Parliament, and received the Royal Assent on the 16th of March, 1766. The ostensible grounds for the adoption of this measure, as expressed by the preamble to the Act, was the inexpediency of the tax on stamps, and by way of guardedly reserving the main point in question, namely, the right of the British parliament to impose internal taxes on the colonies, the Repeal Act was accompanied by a declaratory act in which it was asserted, "that the Parliament had, and of right ought to have, power to bind the colonies in all cases whatsoever."

This broad and unqualified claim on the part of the British legislature was little calculated to satisfy such of the American colonists as had maintained the struggle against the British ministry upon deep and well considered principle. These, no doubt, regarded it with suspicion and dislike, as containing the germ of future encroachments upon their rights and privileges. But it seems to have made little impression upon the minds of the American public. In their joy for the repeal of the Stamp Act, and in their eagerness to resume their ordinary occupations, the colonists regarded it as a harmless sally of wounded pride, and cheerfully renewed their commercial intercourse with the mother country.

But the evil genius of Britain still fostered in the cabinet the idea of raising a revenue in America. Lord Rockingham having been superseded by the Duke of Grafton, Charles Townsend, the then chancellor of the exchequer, brought into the House of Commons, in the year 1767, a bill, which was quickly passed into a law, for granting duties in the British colonies on glass, paper, painter's colours, and tea. This proceeding again kindled a blaze throughout the provinces. In their estimation, it proved that the declaratory act was not intended to be a dead letter, and it gave rise to bold and acute discussions as to the distinction between tax bills and bills for the regulation of trade. To add to the alarm of the colonists, a board of commissioners of customs was established at Boston, which step convinced them that the British government intended to harass them with a multiplicity of fiscal oppressions. They therefore again had recourse to petitions, remonstrances, and non-importation agreements. The seizure of the sloop Liberty, belonging to Mr. Hancock, a popular leader, for an infringement of the revenue laws, incited the populace of Boston to renewed acts of violence, which drove the commissioners of the customs to take shelter in Castle William. To suppress this spirit of insubordination, his Majesty's ministers stationed some armed vessels in the harbour, and quartered two regiments of foot in the town of Boston. The intention of the British government to send this force to Boston having been announced, the select men of ninety-six towns of the state of Massachusetts, met at Faneuil hall, in that town; but this assembly,

which had excited great alarm among the friends of government, merely recommended moderate measures, and then dissolved itself. The day after the breaking up of this convention, the troops arrived, and landed without opposition under the protection of the guns of the armed vessels in the harbour.

The intelligence of the refractory spirit thus manifested by the inhabitants of Boston, produced such irritation in the British parliament, that in February, 1769, both Houses concurred in an address to his Majesty, prompting him to vigorous measures against all persons guilty of what they were pleased to denominate treasonable acts; and beseeching him, in pursuance of the powers contained in an obsolete statute of the 35th of Henry VIII., to seize the offenders, and cause them to be tried by a special commission within the realm of Great Britain. This imprudent suggestion was encountered by strong resolutions on the part of the provincial assemblies; and the colonists again had recourse to non-importation agreements, and, in some instances, sent back to Great Britain cargoes of goods which had actually arrived. Thus the distresses of the British manufacturers were renewed; and ministers were induced, by their earnest remonstrances, to repeal all the newly imposed duties, except that on tea. This reservation being a practical assertion of the right of Parliament to impose internal taxes on the American States, was very odious to the colonists, who, however, relaxed their associations so far as to allow the importation of all articles except tea, the use of which commodity they forebore, or supplied themselves with it by smuggling.

§ 6. *Petition and Remonstrance, 1773.*

Thus was tranquillity restored to most of the colonies. But the presence of the troops in the town of Boston was a perpetual source of irritation in the province of Massachusetts. The Bostonians regarded the soldiers with an evil eye, as the instruments of tyranny designed to be used for the destruction of their liberties, and availed themselves of every opportunity which occurred to annoy and insult them. In resisting a violent act of aggression, a party of the military were obliged to fire on the populace, of whom three were killed, and five dangerously wounded. In times of public excitement, nothing is more

irritating to the populace, and nothing more painful to men of cultivated minds, than the interference of the military. When that interference is attended with fatal consequences, the frenzy of the people rises to the utmost height. Such was the case with the inhabitants of Boston. On hearing of the melancholy event, some obscure individuals caused the drums to beat to arms, and the townsmen assembled to the amount of some thousands. They were, however, happily appeased by the intervention of several patriotic leaders, whose zeal was allayed by prudence, and in consequence of whose interference with the Lieutenant-Governor the obnoxious troops were sent out of the town. Artful means were, however, resorted to for the purpose of keeping alive their resentment. On the morning of the day appointed for the burial of the slain most of the shops in Boston were shut. The bells of that town, of Charleston, and Roxburg, rung out muffled peals. Mournful processions moving from the houses of the murdered dead, as they who had fallen by the fire of the military were denominated, united with the corpses at the spot where they had met their fate. Here, forming into a body, they marched six a-breast, followed by the carriages of the gentry, through the main streets to the place of interment.

Immediately after the affray which was productive of such sad consequences, Captain Preston, the officer who commanded the party who had fired upon the people, had been committed to prison, together with a number of private soldiers who were implicated in that act. The firing had taken place on the 5th of March, and though the trial of the accused did not take place till the following November, there might have been reason to apprehend that, in appearing, for a decision on a case of life and death, before a Boston jury, they would run the greatest hazard of falling victims to infuriated prejudice. But, in this instance, the Bostonians gave evidence of their English descent. In capital cases, Englishmen, in modern times at least, have almost uniformly exercised an impartial administration of the law. Such was the temper which was manifested by the court and jury on the trial of Captain Preston and his comrades. After a patient investigation of the case, all the prisoners were acquitted of murder, and two, being found guilty of manslaughter, were immediately burnt

in the hand and discharged. It is a fact not to be omitted, that they were defended, and zealously defended, by the celebrated John Adams and Josiah Quincy, than whom there did not exist more ardent advocates of the cause of American freedom. The former of these gentlemen, in warning the jury against giving way to popular impressions, expressed himself in the following energetic terms:—"The law, in all vicissitudes of government, fluctuations of the passions, or flights of enthusiasm, will preserve a steady, undeviating course: it will not bend to the uncertain wishes, imaginations, and wanton tempers of men. To use the words of a great and worthy man, a patriot and a hero, an enlightened friend to mankind, and a martyr to liberty—I mean Algernon Sidney—who, from his earliest infancy, sought a tranquil retirement under the shadow of the tree of liberty, with his tongue, his pen, and his sword,—'The law,' says he, 'no passion can disturb. It is void of desire and fear, lust and anger. It is *mens sine affectu*; written reason; retaining some measure of the divine perfection. It does not enjoin that which pleases a weak, frail man, but, without any regard to persons, commands that which is good, and punishes evil in all, whether rich or poor, high or low. It is deaf, inexorable, inflexible.' Yes," said Mr. Adams, "on the one hand, it is inexorable to the cries and lamentations of the prisoners; on the other, it is deaf, deaf as an adder, to the clamours of the populace."

Notwithstanding this firmness on the part of the counsel for the prisoners, and notwithstanding the impartiality of the jury and of the judge, which latter, in his summing up on the trial of Captain Preston, did not hesitate to say,—“I feel myself deeply affected that this affair turns out so much to the shame of the town in general,” ministers took advantage of the disturbed state of the public mind, by making it a pretext for rendering the governor and judges of Massachusetts independent of the province, by transferring the payment of their salaries from the assembly to the crown. In consequence of this proceeding, Governor Hutchinson, who had never been popular, became still more than ever an object of dislike. Such being the disposition of the people of Massachusetts towards their chief magistrate, their indignation against him

was raised to the highest pitch in the year 1773 by an incident, the consequences of which had a most unhappy aspect on the fortunes of Great Britain. The servants of government naturally look with a jealous eye upon the bold assertors of popular rights; and as naturally imagine that they shall most gratify their masters by the recommendation of a steady and active resistance against what they are apt to deem the encroachments of popular claims. In this spirit Mr. Hutchinson and Mr. Oliver, the former the Governor and the latter Lieutenant-Governor of the colony of Massachusetts, had addressed some letters to individuals who had put them into the hands of his Majesty's ministers, in which letters they vituperated the American patriots, called upon government to adopt more vigorous measures than they had hitherto done in support of their authority, recommended restraints upon liberty and an infringement of charters, and even the “taking off” of the principal opponents to British domination. These letters having come into the possession of Dr. Franklin, he thought it his duty, as agent of the House of Representatives of Massachusetts, to send them to his constituents. Their perusal excited, as might have been expected, the indignation of the Assembly, the members of which unanimously resolved, “That the tendency and design of the said letters was to overthrow the constitution of this government, and to introduce arbitrary power into the province;” and, moreover, passed a vote, “that a petition should be immediately sent to the King, to remove the Governor, Hutchinson, and the Lieutenant-Governor, Oliver, for ever from the government of the province.” Dr. Franklin, after having transmitted the petition in question to Lord Dartmouth, the then Colonial Secretary, appeared to support it in person at the Council Chamber on the 11th of January, 1774; but, finding that he was to be encountered by counsel employed on behalf of the accused functionaries, he prayed that the hearing of the case might be adjourned for the space of three weeks, which was granted him. In the mean time speculation was all alive as to the means by which Dr. Franklin had obtained possession of the letters; and a Mr. Whateley and a Mr. Temple, both connected with the colonial office, mutually suspecting each other of the unfaithful communication of them, a corre-

spondence took place between those gentlemen, which ended in a duel, in which Mr. Whateley was dangerously wounded. For the prevention of further mischief of this sort, Dr. Franklin published, in the "Public Advertiser," a letter exonerating both the combatants from blame in this case, and taking the whole responsibility of the procuring the documents on himself. When the Doctor appeared again before the council in support of the Massachusetts petition, he was assailed by Mr. Wedderburne, who acted for the Governor and the Lieutenant Governor, in terms of most elaborate abuse. "The letters," said the caustic advocate, "could not have come to Dr. Franklin by fair means. The writers did not give them to him, nor yet did the deceased correspondent. Nothing, then, will acquit Dr. Franklin of the charge of obtaining them by fraudulent or corrupt means, for the most malignant of purposes; unless he stole them from the person that stole them. This argument is irrefragable. I hope, my Lords, you will mark and brand the man, for the honour of this country, of Europe, and of mankind. Private correspondence has hitherto been held sacred in times of the greatest party rage, not only in politics, but religion. He has forfeited all the respect of societies and of men. Into what companies will he hereafter go with an unembarrassed face, or the honest intrepidity of virtue? Men will watch him with a jealous eye—they will hide their papers from him, and lock up their escrutoirs. He will henceforth esteem it a libel to be called a man of letters—*homo trium literarum**. But he not only took away the letters from one brother, but kept himself concealed till he nearly occasioned the murder of the other. It is impossible to read his account, expressive of the coolest and most deliberate malice, without horror. Amidst these tragical events, of one person nearly murdered, of another answerable for the issue, of a worthy governor hurt in his dearest interests, the fate of America in suspense,—here is a man, who, with the utmost insensibility of remorse, stands up and avows himself the author of all. I can compare it only to *Zanga* in Dr. Young's *Revenge*—

..... 'Know, then, 'twas—I;
I forged the letter; I disposed the picture.
I hated, I despised, and I destroy.'

I ask, my Lords, whether the re-

vengeful temper attributed, by poetic fiction only, to the bloody African, is not surpassed by the coolness and apathy of the wily American? Less fervid eloquence than this of Mr. Wedderburne's would have been sufficient to sway the decision of the council, who declared the petition of the Massachusetts Assembly to be scandalous and vexatious. Franklin was dismissed from the office which he held of postmaster-general of the colonies. Wedderburne was afterwards advanced in his profession till he attained the chancellorship and a peerage; and George III. lost thirteen provinces. Till this moment Franklin had laboured for conciliation; but though, during the time of the hearing of the arguments before the council, he preserved his countenance unmoved, the insults of Wedderburne so exasperated his feelings, that when he left the council-room he declared to his friend Dr. Priestley, who accompanied him on this memorable occasion, that he would never again put on the clothes which he then wore till he had received satisfaction. He dressed himself in this "well-saved" suit when he signed at Paris the treaty which for ever deprived the crown of Great Britain of its dominion over the United States. It is only within these seven years that it has been ascertained, that governor Hutchinson's letters were put into Franklin's hands by a Dr. Williamson, who, without any suggestion on his part, had procured them by stratagem from the office where they had been deposited*.

§ 7. *Boston Port Act, and Repeal of the Charter of Massachusetts.*

The determination of the colonists to use no tea which had paid duty was so generally persevered in, that seventeen millions of pounds of that commodity were accumulated in the warehouses of the East India Company. With a view of getting rid of this stock, and at the same time of aiding ministers in their project of taxing the North American colonies, the Company proposed that a law should be passed authorizing them to receive a drawback of the full import duties on all teas which they should export. To this proposal the British government agreed, in hopes that, as by this arrangement the colonists, on paying the duty of three-pence per pound on the landing of the tea in their

* This curious fact is stated, with many particulars, in a Memoir of Dr. Williamson, by Dr. Hosack, of New York.

harbours, would be able to buy it at a cheaper rate than they could do from the contraband dealers, their patriotic scruples would be silenced by their love of gain. In this notion, however, ministers were mistaken. Strong resolutions were entered into throughout the provinces, declaring, that whosoever should aid or abet in landing or vending the tea which was expected, ought to be regarded as an enemy to his country; and that committees should be appointed to wait on the agents of the East India Company, and to demand from them a resignation of their appointments. Terrified by these proceedings, a great majority of the consignees complied with this requisition; but in Massachusetts these agents, being the relatives and friends of the governor, and expecting to be supported by the military force stationed in Boston, were determined to land and offer for sale the obnoxious commodity. As the tea ships were lying in the harbour, ready to land their cargoes, the leading patriots, apprehensive that, if the tea were once warehoused, the opposition of the people to its sale might gradually give way, and deeming decisive measures absolutely necessary in the present circumstances, boarded the vessels, and emptied the tea chests into the water.

The British ministry rejoiced that this outrage had occurred, and that it had occurred in the town of Boston, which they had long regarded as the focus of sedition, from whence a spirit of resistance to British authority was diffused throughout the colonies. It now lay at their mercy, as having been guilty of a flagrant delinquency, and as meriting exemplary punishment. Determined to chastise its mutinous inhabitants for their numerous delinquencies, and to bend them to submission, Lord North, then prime minister, on the 14th of March, made a motion in the House of Commons, "That leave be given to bring in a bill for the immediate removal of the officers concerned in the collection and management of his Majesty's duties and customs from the town of Boston, in the province of Massachusetts bay in North America; and to discontinue the landing and discharging, lading and shipping of goods, wares, and merchandize, at the said town of Boston, or within the harbour thereof." The deep silence which followed the annunciation of this motion

marked the sense of the House as to the serious consequences which it involved; but it met with no opposition, except on the part of Alderman Sawbridge and Mr. Dowdswell. Even Colonel Barré, the great advocate of the rights of the colonies, spoke in favour of it, and it passed without a division. No debate occurred on the first reading of the Bill on the 18th of March; and the second reading, which took place on the twenty-first of the same month, was only interrupted by a few adverse remarks made by Mr. R. Fuller. On the twenty-fifth, a petition was presented against the bill, signed by several natives of North America, at that time resident in London; after the reading of which the House discussed its provisions in Committee. Mr. Fuller availed himself of this occasion to move, that, instead of the closing of the port of Boston, which measure, he argued, would be detrimental, not only to American, but also to British interests, a fine should be imposed on the offending community. This amendment was opposed by the prime minister, who said, that he was no enemy to lenient measures, but that it was evident that, with respect to the inhabitants of Boston, resolutions of censure and warning would avail nothing—that it was then the time to stand out, to defy them, to proceed with firmness and without fear, and that they would never reform till severe measures were adopted. With a lamentable want of foresight his lordship thus proceeded: "I hope that we every one feel that this is the common cause of us all; and unanimity will go half way to the obedience of the people of Boston to this bill. The honourable gentleman tells us, that the act will be a piece of waste paper, and that an army will be required to put it into execution. The good of this act is, that four or five frigates will do the business without any military force." With a similar blindness to futurity, Mr. Charles Jenkinson exclaimed, "We have gone into a very expensive war for the attainment of America; the struggle which we shall now have to keep it will be of little expense." Thus rash and short-sighted are statesmen when their passions obtain the mastery over their judgment! After a lengthened debate, in the course of which the bill was powerfully opposed by Mr. Burke and Mr. Dowdswell, it passed the Commons with but very few negatives; and havin

been hurried through the House of Lords, it finally received the Royal Assent, and was passed into a law.

The Boston Port Act was speedily followed by still more alarming measures. The free constitutions of the American provinces had presented strong impediments against the views of his Majesty and his ministers. Among these, the charter of Massachusetts was pre-eminent for the liberality of its principles. Being well aware, that whilst this charter subsisted he could never effectuate his designs, Lord North determined to set it aside. When Charles II. deemed it necessary for his purposes to abrogate the franchises of the city of London, and of other corporate towns in England, he attacked their charters by *quo warrantos*; but the process of law is tedious, and in this case the issue of legal proceedings might be uncertain. The minister, therefore, decided upon bringing the omnipotence of parliament to bear upon the contumacious inhabitants of the offending colony. Accordingly, on the 28th of March, 1774, on the allegation that an executive power was wanting in the province of Massachusetts, and that it was highly necessary to strengthen the hands of its magistracy, he proposed to bring in a bill, authorizing the Governor for the time being to act as a justice of the peace, and empowering him to appoint at his will and pleasure the officers throughout the whole civil authority, such as the provost marshal and the sheriffs, to which latter officers was to be delegated the nomination of juries, who had formerly been elected by the freeholders and inhabitants of the several towns of the province. It was also his lordship's intention to vest in the crown the appointment of the council, which, under the provisions of the ancient constitution, had heretofore been elected by the general court. The latter provision was introduced into the bill at the suggestion of Lord George Germaine, who was pleased to say that "he would not have men of a mercantile cast every day collecting themselves together, and debating about political matters; he would have them follow their occupations as merchants, and not consider themselves as ministers of that country." In pursuance of this suggestion, which was thankfully received by the premier, there were added to the bill severe restrictions on the holding of public town's

meetings. Leave was given to bring in the bill without a single objection, except on the part of Mr. Byng, the Member for Middlesex; and though, in its progress through the House of Commons, many weighty arguments were urged against it, especially by Governor Pownall and Mr. Dowdswell, it was carried on the second of May by a majority of 239 against 64 voices. In the House of Lords it was severely animadverted upon; but a division of 92 to 20 evinced that the majority of the peers of the realm entered heartily into the views of the ministry as to coercing the American colonies. The Duke of Richmond, however, and eleven other peers, protested against it for the following reasons, "Because, before the rights of the colony of Massachusetts Bay, which they derive from their charter, are taken away, the definite legal offence by which a forfeiture of their charter is incurred ought to have been clearly stated, and the parties heard in their own defence; and the mere celerity of a decision against it will not reconcile the minds of the people to that mode of government which is to be established upon its ruins. On the general allegations of a declaratory preamble, the rights of any public body may be taken away, and any visionary scheme of government substituted in their place. By this bill, the governor and council are invested with dangerous powers, unknown to the British constitution, and with which the King himself is not intrusted. By the appointment and removal of the sheriff at pleasure, they have the means of returning such juries as may best suit with the gratification of their passions and their interests; the life, liberty, and property of the subject are put into their hands without control. The weak, inconsistent, and injudicious measures of the ministry have given new force to the distractions of America, which, on the repeal of the Stamp Act, were subsiding; have revived dangerous questions, and gradually estranged the affections of the colonies from the mother-country. To render the colonies permanently advantageous, they must be satisfied with their condition, that satisfaction there is no chance of restoring, but by recurring to the principles on which the repeal of the Stamp Act was founded."

The Boston Port Act, and the Act for Remodelling the Constitution of Massachusetts, were strong and severe mea-

asures—measures which, it might have been conceived, would have set at rest any common jealousy of popular rights, and satisfied any ordinary thirst for vengeance. But, whilst these acts were in progress, the British prime minister held in reserve another vial of wrath to pour on the heads of the refractory colonists. On the 15th of April, he rose in his place and proposed a third bill, which, he hoped, would effectually secure the province of Massachusetts Bay from future disturbances. The tenor of this bill, which bore the plausible title of a bill “for the impartial administration of justice,” was, that “in case of any person being indicted for murder or any other capital offence committed in the province of Massachusetts in aiding the magistracy, the governor might send the person so indicted to another colony or to Great Britain for trial,”—the act to continue in force for four years. It was observed, that whilst Lord North was moving the House for leave to bring in this bill, and was attempting, in a short speech, to enforce its necessity, his voice faltered. This is not matter of surprise. His lordship was a good tempered and humane man; and it must have been repugnant to his better feelings to become the organ for the proposing of such atrocious measures. The introduction of this bill roused in opposition to it the energies of Colonel Barré, who had, however unwillingly, acquiesced in the preceding laws of coercion. He saw clearly the drift of the proposed statute, and was well aware that the colonists would not submit to it. “You may,” said he, “think that a law founded on this motion will be a protection to the soldier who imbrues his hand in the blood of his fellow-subjects. I am mistaken if it will. Who is to execute it? He must be a bold man, indeed, who will make the attempt. If the people are so exasperated, that it is unsafe to bring the man who has injured them to trial, let the governor who withdraws him from justice look to himself. The people will not endure it; they would no longer deserve the reputation of being descended from the loins of Englishmen if they did endure it.” Such was the bold language of an experienced soldier, who knew America well. But this warning voice was raised in vain. The views of the Court were adopted by both Houses of Parliament, and this last and most unconstitutional measure of coercion was passed into a law.

It might seem just and equitable that compensation should be made by a delinquent community for property destroyed within its precincts, and not unreasonable that a town which had perpetrated an open violation of fiscal law should be deprived, till it was reduced to a better spirit, of the privileges of a port. Nor is it improbable that, had the British ministry proceeded no farther in their measures of vengeance, the other commercial cities of the colonies would have regarded the humiliation of the people of Boston with indifference. But the attack upon the charter of Massachusetts filled the bosom of every North American with indignation and alarm. Charters they had been accustomed to consider as inviolable compacts between the king and his people; but if these could be annulled and abrogated by parliament, what province could deem its constitution safe from violation? And in the provision for the trial in Great Britain of individuals accused of murders committed in America, they saw an indemnity for every one who might avail himself of a plausible pretext to put to death any person who might be obnoxious to government. Such were the feelings of the colonists. But, on this side of the Atlantic, these invasions of the liberties of fellow subjects were regarded with unconcern, and even with satisfaction. The people of Great Britain generally care little about the internal state of the distant possessions of the crown. They at that time looked up to parliament with awe, as a threefold body vested with the attribute of omnipotence; and they made themselves a party in the quarrel, reproaching the refractory spirit of the colonies as a rebellion against the sovereign authority, of which they imagined that every individual Briton had a share.

§ 8. Removal of the Seat of Government from Boston.

When intelligence arrived at Boston of the strong proceedings of the British parliament and government, the patriots of Massachusetts cast an anxious eye on the sister colonies. They were well aware that, if left to themselves at this awful crisis, they must succumb to the power of the mother-country; but they entertained hopes that an union of the provinces against what they regarded as ministerial oppression, would rescue their common liberties from destruction.

To effect this union they used the utmost exertions of activity, skill, and prudence. The opposition to the stamp act and to the duty on tea had been carried on by means of committees of correspondence, which had established links of connexion throughout the whole of the British dependencies in North America. Of this organization they now availed themselves with the utmost promptitude; and, by the mission of agents of consummate ability, they roused the inhabitants of every district of continental America to a sense of their wrongs. Public meetings were held in every township of every province, in which it was resolved to make common cause with the people of Massachusetts, and to resist the claim of the British parliament to tax them without their consent. The steps to be taken in pursuance of these resolutions they unanimously agreed to refer to a general congress, the speedy summoning of which they declared to be absolutely necessary to the public safety.

In the mean time, General Gage had arrived at Boston, invested with the united authority of governor and commander-in-chief of the forces. He was speedily followed by two regiments of foot, and by various other detachments, which gradually swelled his garrison to a number which was deemed amply sufficient to overawe the malcontents, and to enforce the execution of the obnoxious acts. Soon after his arrival, he announced his intention of holding the general court of the colony at Salem after the 1st of June, the day appointed by the statute for the commencement of the operation of the Boston port act. The blow thus struck seemed to common observers to be fatal to the inhabitants of that devoted town. Property was instantly depreciated to the lowest scale of value. Houses were deserted by their tenants; warehouses were emptied and abandoned; the quays were deserted; silence reigned in the ship-yards, and thousands of artificers wandered through the streets destitute of employ. But the sufferers bore their distresses with a sullen resolution. Not a murmur was heard against the democratic leaders, who might in a certain sense be regarded as the authors of their miseries; but their execrations of the British parliament were loud and violent. Contributions poured in from all quarters for their relief; and they were comforted by letters of condolence in their distresses, and of thanks for their

steadiness. The inhabitants of Marble Head offered to accommodate the merchants of Boston with their warehouses, and the people of Salem, in an address to the governor, declared that they could not "indulge one thought to seize on wealth, and raise their fortunes on the ruin of their suffering neighbours."

§ 9. *First Acts of the Assembly at Concord.*

On the 7th of June the governor held the general court of Massachusetts, at Salem; but finding that the popular leaders were prepared, on the first day of its meeting, to carry some most obnoxious motions, he promptly dissolved the assembly. This, however, he did not effect before it had nominated five deputies to meet the committees of other provinces at Philadelphia on the ensuing 1st of September.

The more, indeed, he exerted himself to embarrass the proceedings of the patriots, the more decidedly did he find himself baffled by their vigilance and their ingenuity. When, according to the provisions of the coercive statutes, he issued a proclamation prohibiting the calling of any town meetings after the 1st of August, 1774; an assembly of this kind was, nevertheless, held; and, on his summoning the select men to aid him to disperse it, he was encountered by the following notable specimen of special pleading, that the holding of the meeting to which he objected was no violation of the Act of Parliament, "for that only prohibited the calling of town meetings, and that no such call had been made; a former legal meeting, before the 1st of August, having only adjourned themselves from time to time." One consequence of these adjourned meetings was a "solemn league and covenant," whereby the parties who signed it bound themselves "to suspend all commercial intercourse with Great Britain until the late obnoxious laws were repealed, and the colony of Massachusetts was restored to its chartered rights." A proclamation by which the Governor denounced this association as "unlawful, hostile, and traitorous," was treated with contempt. In another proclamation, published about this time, "for the encouragement of piety and virtue, and for the prevention and punishing of vice, profaneness, and immorality," the Governor made especial mention of the vice of hypocrisy as a failing which the people

were admonished to eschew. No doubt, the staff of General Gage thought this an excellent satire upon the puritanism of the Bostonians. But the joke was ill timed, and served only to add fuel to the popular mind, which was already in a high state of inflammation. When, in the month of August, Gage attempted to organize the new constitution of the colony, most of the counsellors whom he appointed refused to act, and the juries declined to serve under judges nominated by the crown. Dreading the most serious consequences from the obstinacy thus manifested by the people of Massachusetts, the Governor thought it prudent to fortify Boston Neck, and to seize the powder deposited in the arsenal at Charlestown, which is a kind of suburb to Boston, to which it is united by a bridge. These measures produced a general rising throughout the province, which was with difficulty repressed by the prudence of the leading patriots. This demonstration drove the Governor and his revenue officers from the new seat of government to the proscribed town of Boston. Whilst these transactions were going on, the Congress, or union of the several committees, had assembled at Philadelphia, and, as the first fruits of its deliberations, issued a declaration, that it "most thoroughly approved the wisdom and fortitude with which opposition to wicked ministerial measures had been hitherto established in Massachusetts; and recommended perseverance in the same firm and temperate conduct, as expressed in the resolutions of the delegates from the county of Suffolk." The tenor of these resolutions was, that no obedience was due to the restraining statutes. Emboldened by the approbation of Congress to act up to the spirit of these resolutions, a provincial assembly, held at Concord, of which Mr. Hancock was president, after having in vain solicited the Governor to desist from constructing a fortress at the entrance into Boston, in defiance of his Excellency's authority, appointed a committee to draw up a plan for the arming of the province. The members of this committee did not shrink from the discharge of their perilous duty. They gave instructions for the organizing of a species of partisans, under the name of minute men, the command of whom was conferred on Jedediah Pribble, Artemas Ward, and Seth Pomeroy, warriors whose puritanical names gave ominous foreboding of a

determination of purpose and of an obstinacy of valour, which their future conduct did not belie. The assembling of the militia was delegated to a committee of safety; and a committee of supply was authorized to expend the sum of 15,000*l.* sterling, in provisions, military accoutrements, and stores, which were accordingly provided, and deposited at Worcester and Concord. At a later meeting of the provincial congress, still bolder measures were adopted. Resolutions were then passed to raise an army of 12,000 men, and delegates were sent to the adjacent colonies to urge them to increase these forces to the number of 20,000. It was, moreover, determined that the British troops should be attacked if they marched in field equipment beyond Boston Neck. A circular letter was also issued requesting the clergy to aid the common cause by their prayers and exhortations. At this crisis the situation of the Governor was far from being an enviable one. The reins of authority had fallen from his hands, and had been seized by the provincial congress, whose resolutions had throughout the province the force of laws. At the approach of winter he experienced the utmost difficulty in procuring materials or workmen to construct barracks for the sheltering of his troops. The straw which he purchased in the vicinity of the town was set on fire, and the timber which he had bought for the king's stores was seized or destroyed. Nor was the spirit of open resistance confined to Boston. In Rhode Island the people seized the public battery of forty pieces of cannon, and stormed and took the castle of Portsmouth, where they obtained a seasonable supply of powder.

§. 10. *Opening of the Congress at Philadelphia.*

These active measures, which amounted to a direct levying of war against the King, were provoked by the rigour exercised against the colony of Massachusetts. In the meantime, the deputies of eleven provinces had assembled in congress at Philadelphia, and were soon joined by delegates from North Carolina. Peyton Randolph was chosen president of this assembly, and Charles Thompson was appointed its secretary. After a slight controversy as to the mode of voting, which was at length determined to be taken by provinces, each province having one vote, the members proceeded with

the utmost zeal and harmony to the arduous business before them. In the first place, they issued a declaration of rights, in which, whilst they claimed a total exemption from any species of internal taxation imposed by the British parliament, they professed their willingness to obey all the laws which might be enacted in the mother country for the regulation of trade. They protested against the introduction of a standing army into the colonies without their consent, as also against the violation of their chartered rights in the infringement of their ancient constitutions. Enumerating the several acts by which they were aggrieved, they declared that till these acts were repealed, they and their constituents would hold no commercial intercourse with Britain; and, with a view of over-awing the weak and the wavering, and the partisans of royal authority among their countrymen, they resolved that committees should be chosen in every county, city, and town, to observe the conduct of all people touching the suspension of trade with the mother country, and to publish, in gazettes, the names of those who violated this ordinance, as foes to the rights of British America. They also agreed upon an address to the British people, vindicating their resistance to oppression; and two memorials to the West India colonies and to the people of Canada, exhorting them to unite with their persecuted brethren in a steady opposition to the encroachments of arbitrary power. In laying their grievances before the throne, in a petition to the King, they professed sentiments of loyalty to his Majesty's person and authority; but complained of the miseries which had been brought upon them by the mal-administration of wicked ministers. "We ask," said they, "but for peace, liberty, and safety. We wish not a diminution of the prerogative, nor do we solicit the grant of any new right in our favour. Your royal authority over us, and our connexion with Great Britain, we shall always carefully and zealously endeavour to support and maintain." This address to the sovereign concluded in the following pathetic terms. "We implore your Majesty, for the honour of Almighty God, for your own glory, for the interest of your family, for the safety of your kingdoms and dominions, that, as the loving father of your whole people, connected by the same bonds of law, loyalty, faith, and blood, though dwell-

ing in various countries, you will not suffer the transcendent relation formed by these ties to be farther violated by uncertain expectation of effects, which, if attained, never could compensate for the calamities through which they must be gained." These various documents were drawn up with great judgment and ability; and their dissemination throughout the union produced a powerful effect upon the feelings of the people, — preparing them for the most strenuous exertions in what they deemed to be the cause of justice and freedom. Their framers, however, did not rely upon their eloquence alone, to produce an effect favourable to their cause upon the people of Britain. Their non-importation agreements had produced the repeal of the Stamp Act, and they trusted that the annunciation of similar resolutions would produce similar effects as to the removal of their late parliamentary grievances. The event proved that they were mistaken. The merchants trading to America composed a small fraction of the British community. A hostile ministry was all powerful in parliament—the pride of the King was touched—every individual Briton, in whose mouth the phrase *our colonies* was familiar, deemed himself, in some sort, sovereign over the North American plantations, and a cry almost unanimous was raised throughout the nation, that the mutinous contemners of the omnipotence of the legislature of the parent state must be reduced to obedience by the strong hand of coercion.

The CONGRESS, after a session of about eight weeks, and after passing a resolution for the calling of another assembly of the same nature, if necessary, in the ensuing May, dissolved themselves; and the members proceeded to further in their respective provinces the cause in which they were thus decidedly embarked. By their influence, operating upon minds ready prepared by perpetual discussions, both public and private, of the wrongs of the colonies, the recommendations of an assembly, invested with no legal authority, obtained the force of laws. The non-intercourse agreements were zealously adopted by the great mass of the people; and the few who ventured to dissent from the general voice were proscribed as enemies to their country.

§. 11. *Address of the House of Commons, 9th February, 1775.*

When the petition from Congress to

the King arrived in England, his Majesty had just met a new parliament, to which he had communicated information, in a speech from the throne, "that a most daring spirit of resistance and disobedience to the laws unhappily prevailed in the colony of Massachusetts;" and at the same time intimated that he had taken the requisite steps to repress it. Notwithstanding this angry demonstration, hopes were, for a short time, entertained by the friends of America that ministers would adopt measures of conciliation. The secretary of state, after submitting the petition of the general Congress to the cabinet council, presented it to the King, by whom, as he reported, it was graciously received, and was intended to be laid by him before his two houses of parliament; numerous petitions from the merchants and manufacturers of the principal towns in the kingdom, and from the West India planters, prayed for the adoption of a more lenient policy towards the North American colonies; all the eloquence of Lord Chatham was exerted in the house of peers to effect the same object; yet Lord North was determined to proceed in the course of coercion. The Rubicon was passed on the 9th of February, 1775, by the presentation by both houses of a joint address to the King, in which they stated it as their opinion, that "a rebellion actually existed in the province of Massachusetts;" and, in the usual style, offered to hazard their lives and fortunes "in the maintenance of the just rights of his Majesty and the two houses of parliament." In support of this address, an addition was voted to the military force, of 4383 rank and file, and 2000 seamen. An act was also passed to restrain the commerce of the eastern colonies to Great Britain, Ireland, and the British West Indies; and to prevent them from fishing on the banks of Newfoundland, under certain conditions, and for a limited time. The provisions of this act were soon afterwards extended to the provinces of New Jersey, Pennsylvania, Maryland, Virginia, and South Carolina. It is to be remarked, that New York, Delaware, and North Carolina, did not on this occasion fall under the ban of ministerial interdiction. New York, where the government had more influence than in other colonies, had been tardy in joining the union; and Lord North flattered himself that, by forbearing to include that and the other two colonies above-

mentioned in the restraining act, he should sow amongst the associated provinces jealousies which would dissolve their connexion; but in this he was disappointed. So powerful was the spirit of patriotism in America, that the inhabitants of the exempted colonies disdained to avail themselves of the privileges which were reserved to them, and determined to share in the restrictions imposed on their brethren; and it was with severe mortification that the premier soon afterwards witnessed the presentation to the house of commons of a petition and remonstrance from the assembly of New York, claiming exemption from internal taxation, and protesting against the dependance of governors and judges on the crown for their salaries and emoluments. A hearing had been refused to the petition of Congress, though it was individually signed, under the pretext that it emanated from an illegal meeting. The remonstrance of the New York assembly was not liable to this objection; but when a motion was made in the House of Commons that it should be brought up, it was lost by a stratagem of Lord North.

On the 20th of February, 1775, some time previously to the transaction which has just been related, his lordship had manifested some cunning, but little wisdom, in proposing a resolution to the effect that when any of the colonies or provinces in America should make provision for contributing their proportion to the common defence, and for the support of their civil government (such proportion to be raised under the authority of the general court or general assembly of such province and colony), "it will be proper to forbear, in respect of such colony or province, to levy any duty or tax, except such duties as may arise for the regulation of commerce, which duties are to be carried to the account of such colony or province." The bill founded on this resolution was violently opposed by certain of the prime minister's habitual partisans, who insisted on it that the colonies should be taxed directly by the British parliament. It was also attacked by the opposition, who argued that as it reserved to the British government the right of apportioning the respective proportions which the provinces should raise for the general service, and left the disposal of the sums raised to parliament, it mattered little that the immediate application of the scourge of taxation should be left to the

colonial assemblies, who would regard the bill as an insult and a wrong. The opposition made a right estimate of the feelings of the Americans. The bill passed into a law; but it was received throughout the union with abhorrence and contempt.

It was in this session, viz. on the 22d of March, 1775, that Mr. Burke made his celebrated speech for conciliation with America,—a speech fraught with statesman-like views, expressed in language at once temperate and eloquent. At the commencement of this deeply-studied oration, Mr. Burke, after observing that all former measures recommended by the ministry and adopted by parliament had served to no other purpose but to keep America in a state of agitation, intimated that it had been observed to him by an intelligent friend, that, instead of limiting himself to criticisms or the plans of government, it was highly expedient that he should produce a plan of his own. Though he was aware, said he, that it argues little knowledge to hazard plans of government, except from a seat of authority, yet, as public calamity was a mighty leveller, he would now act upon his friend's suggestion. "My proposition," proceeded he, "is peace; not peace through the medium of war; nor peace to be hunted through the labyrinth of intricate and endless negotiations; nor peace to arise out of universal discord, fomented from principle in all parts of the empire; not peace to depend upon the juridical determination of perplexing questions, or the precise marking of the shadowy boundaries of a complex government. It is simple peace, sought in its natural course and in its ordinary haunts—it is peace sought in the spirit of peace, and laid in principles purely pacific. I propose, by removing the ground of the difference, and by restoring the former unsuspecting confidence of the colonies in the mother country, to give permanent satisfaction to your people, and, far from a scheme of ruling by discord, to reconcile them to each other in the same act, and by the bond of the very same interest which reconciles them to British government." After laying down and enforcing the position that the proposal for reconciliation ought, in consideration of her strength, to come from Great Britain, Mr. Burke asserted, that the plan for conciliation ought to be guided, not by abstract theory, but by a regard to cir-

cumstances. What, then, were the circumstances of the present case? In the first place; the discontented Americans amounted in number to two millions, a number which, considered in mass, could not be regarded "as a paltry excrescence of the state, or a mean dependant, who may be neglected with little damage, and provoked with little danger." But, with the consideration of the population of America, it was requisite to combine mature reflection upon other circumstances; as, for instance, the commerce, the agriculture, and the fisheries of the colonies. As to commerce, Mr. Burke proved, by documentary evidence, that, at the beginning of the century, of six millions which constituted the whole mass of the export commerce of Britain, the colony trade was but one twelfth part; but that, by the last returns submitted to parliament, it appeared that, as a part of sixteen millions, it constituted considerably more than a third of the whole. In agriculture, he asserted that America was so prosperous that she was enabled to export vast quantities of grain for the supply of the mother country. As to the third head of consideration, "no sea," exclaimed the orator, "but is vexed by the fisheries of the colonists, no climate that is not witness to their toils. Neither the perseverance of Holland, nor the activity of France, nor the dexterous and firm sagacity of English enterprise, ever carried this most perilous mode of hard industry to the extent to which it has been pushed by this recent people,—a people who are still, as it were, but in the gristle, and not yet hardened into the bone of manhood." But, continued Mr. Burke, some persons will say, such a country is worth fighting for—true—but fighting will not retain it. Force is uncertain, and, if successful, it will depreciate the object gained. He warned the house to consider the temper and character of the people with whom many ill-advised individuals seemed so eager to contend. The North American colonists were jealous of their liberties. Their jealousy as to their rights they derived from their English origin; it was nursed by their popular legislatures—it was also nursed by their religion. The great body of the colonists were dissenters; and the dissenting interests have sprung up in direct opposition to all the ordinary powers of the world, and can justify that opposition only on a strong claim to natural liberty. "All

protestantism," Mr. Burke acutely remarked—"All protestanism, even the most cold and passive, is a sort of dissent. But the religion most prevalent in our Northern colonies, is a refinement on the principle of resistance; it is the dissidence of dissent, and the protestantism of the protestant religion." The spirit of freedom was, moreover, nurtured in the colonies, in general, by education; and in Virginia and the Carolinas by that pride which uniformly actuates the holders of slaves, "to whom freedom is not only an enjoyment, but a kind of rank and privilege." Their distance from the mother country likewise rendered the colonists less disposed to submit to the dictation of the parent state. "This happens in all forms into which empire can be thrown. In large bodies the circulation of power must be less vigorous at the extremities." A proud spirit of liberty having from these various causes been infused throughout the colonies, in consequence of which they have not only disobeyed our authority, but established an efficient authority of their own, by means of which a vast province has subsisted for near a twelvemonth, without governor, without public council, without judges, without executive magistrates, the question arises, how is this spirit to be encountered? Some politicians have in this emergency proposed to check the population of the colonies by stopping the grant of more lands by the crown. Others have advised that their maritime enterprises should be checked by the severity of restrictive laws; whilst a third class of counsellors are sanguine in their expectations, that the Virginians and the planters of the Carolinas will speedily be reduced to submission by the emancipation of their slaves. Some, again, went so far as to talk of prosecuting the refractory as criminals. After demonstrating at length the futility of these proposals, Mr. Burke affirmed, that the only method left of putting an end to the existing troubles was that of conciliation. The Americans, said he, complain of taxation—I will not on this matter dispute the point of right, but that of policy. "The question is not whether you have a right to render your people miserable, but whether it is not your interest to make them happy. It is not what a lawyer may tell you, you may do, but what humanity, reason, and justice declare you ought to do." Having thus laid down the principle of his

plan, Mr. Burke began to open it by declaring, that his main object was to admit the people of the colonies to an interest in the Constitution. The fact was, that the Americans did not object to the laws of trade; nor did they aim at anything more than a release from taxation, imposed upon them by a legislative body in which their interests are not guarded by their representatives. Similar uneasiness was for a long time prevalent in Ireland, in Wales, and in the counties palatine of Chester and Durham. Now the agitations of Ireland were quelled by the establishment of a separate legislature for that country, whilst the feuds which prevailed in Cheshire and Durham were annihilated by the admission of representatives of those counties into the English parliament. Let a similar policy then be exercised towards America. In her case, let taxation and representation go hand in hand. But the distance between the colonies and the mother country precludes the Americans from sending representatives to the British legislature. What remains, then, but to recognize for the theory the ancient constitution and policy of this kingdom with regard to representation, and as to the practice, to return to that mode which a uniform experience has marked out to you as best, and in which you walked with security, advantage, and honour until the year 1763. "My resolutions, therefore," continued Mr. Burke, "mean to establish the equity and justice of a taxation of America by *grant*, and not by imposition; to mark the *legal competency* of the colony assemblies for the support of their government in peace, and for the public aids in the time of war; to acknowledge that this legal competency has had a dutiful and beneficial exercise, and that experience has shewn the benefit of their grants, and the futility of parliamentary taxation as a measure of supply." After opening these points at considerable length, and with transcendent ability, Mr. Burke concluded by moving a series of resolutions, in which their substance was embodied. This masterly speech, in the meditation and composition of which Mr. Burke, in the earnestness of his wish to point out to the members of the House of Commons the true line of colonial policy, seems to have chastised and checked the exuberance of his genius, was spoken to the members alone, as during the debate the stand-

ing orders for the exclusion of strangers were strictly enforced. It was answered by Mr. Jenkinson, who professed serious alarm at the proposition, that any public body, save parliament, was entitled to make grants of money to the crown. These constitutional scruples had their due weight, and Mr. Burke's resolutions were negatived by a majority of 270 to 78.

About this time, Dr. Franklin, in a kind of demi-official communication with ministers, endeavoured to effect a reconciliation between the colonies and the parent state. In the discussions which took place with this view between the Doctor and the agents of the ministry, most of the points in dispute were settled; but the obstinate refusal of the cabinet to restore the ancient constitution of Massachusetts broke off the conferences; and Dr. Franklin, despairing of the preservation of peace, returned to his native land, determined to share the fortunes of his countrymen, and, at all hazards, to devote his talents to the maintenance of their rights.

§ 12. *Affair at Lexington, 19th April, 1775.*

It has already been stated that the Massachusetts patriots had resolved to attack the king's forces whenever they should march out of Boston. On the 19th of April, 1775, their adherence to this resolution was put to the test. With a view of seizing the military stores and provisions which the insurgents had collected at Concord, General Gage, on the night preceding that eventful day, detached from his garrison 800 picked men, under the command of Lieutenant-Colonel Smith. These troops made a rapid march to the place of their destination, in hopes of taking the malcontents by surprise; but notwithstanding their precautions, the alarm was given throughout the country, and the inhabitants flew to arms. Between four and five o'clock on the morning of the 19th, the advanced guard of the royal troops arrived at Lexington, where they found about seventy of the American militia under arms, whom Major Pitcairn ordered to disperse; and on their hesitating to obey his commands, that officer discharged his pistol, and ordered his soldiers to fire. By the volley which ensued three or four of the militia were killed, and the rest put to flight. Lieutenant-Colonel Smith then proceeded to

Concord, where he destroyed the stores of the insurgents, and then commenced his retreat towards Boston. He was not, however, permitted to make this retrograde movement without molestation. Before he left Concord he was attacked by the American militia and minute-men, who, accumulating by degrees, harassed his rear and flanks, taking advantage of every inequality of ground, and especially availing themselves of the stone walls which skirted the road, and which served them as entrenchments. Had not the detachment been met at Lexington by a body of 900 men, which General Gage had sent out to its support, under the command of Lord Percy, it would certainly have been cut off. The united British forces arrived, wearied and exhausted, at Bunker's Hill, near Boston, a little after sunset, having sustained a loss of 65 killed, 180 wounded, and 28 prisoners.

When Lord Percy, on his advance, was marching through Roxburgh, his military band, in derision of the Americans, played the tune of "Yankee Doodle." His lordship observed a youth who appeared to be amused at this circumstance, and asking him why he laughed, received this answer—"To think how you will dance by-and-by to 'Chevy Chase.'" It had been too much the habit of the British to despise and insult the Americans as cowards; but the event of the march to Concord convinced them that the Massachusetts men were not deficient either in personal courage or in individual skill in the use of arms.

§ 13. *Battle of Bunker's Hill, 16th June, 1775.*

Blood having been thus drawn, the whole of the discontented colonies took prompt measures to resist the royal authority by force of arms. Volunteers enrolled themselves in every province; and throughout the whole union the King's stores were seized for the use of the insurgents. The surprisal of Ticonderoga and Crown Point by a party from Connecticut, under the command of Colonel Allen, furnished them with upwards of 100 pieces of cannon, and a proportionable quantity of ammunition. Troops were gradually assembled in the towns and villages in the vicinity of Boston, so as to hold that town in a state of blockade. About the latter end of May, General Gage was reinforced by

the troops which had been sent from Great Britain, and which were accompanied by Generals Howe, Burgoyne, and Clinton. Finding himself thus strengthened, he prepared for active operations; but wishing to temper justice with mercy, on the 12th of June he issued a proclamation, offering pardon to all who would lay down their arms, with the exception of Samuel Adams and John Hancock, "whose offences," he declared, "were of too flagitious a nature to admit of any other consideration than that of condign punishment." This proclamation produced no effect on the Americans, save that of rousing them to more vigorous exertions. On Charlestown Neck, a peninsula situated to the north of Boston, with which it communicates by a bridge, is a considerable eminence, called Bunker's Hill. As this was deemed a post of great importance, the Americans resolved to occupy it, and orders were given by the provincial authorities that a detachment of 1000 men should entrench themselves on the height in question. The party was accordingly moved forwards from Cambridge on the night of the 16th of June, but, by mistake, commenced their operations on Breed's Hill, an eminence nearer to the town of Boston than the place of their destination. Here they laboured with such activity, and at the same time with such silence, that the appearance of their works, at day-break the next morning, was the first indication of their presence. The firing of guns from the *Lively* man-of-war, whence they were first seen, gave the alarm to the British, whose commanders, on reconnoitring the position of the enemy from the steeples and heights of the city, perceived that they had thrown up a redoubt about eight rods square, from which lines extended to the eastward nearly to the bottom of the hill. To the westward the works were less perfect; but the provincials were busily employed in carrying them on, notwithstanding they were exposed to showers of shot and shells, discharged from the vessels in the harbour. The necessity of driving the enemy from their position was evident; and for this purpose Gage put 3000 men under the command of General Howe. On this occasion the British were not very alert in their preparations, as it was noon before their troops were embarked in the boats which were to convey them to Moreton's Point, at the southern extremity of Charlestown

Neck. At this awful crisis every elevated spot in the town of Boston was covered with spectators, who anxiously awaited the event of the expected contest. Their attention was first arrested by a dense smoke, which announced that the British, fearing lest the houses of Charlestown might afford shelter to the provincials, had set that place on fire. Proceeding to Moreton's Point, the king's troops formed in two lines, and marched slowly up the hill, whilst their artillery played on the American works. The provincials stood firm and steady: they reserved their fire till the British had advanced to within sixty or seventy yards of their lines; they then made a simultaneous discharge with so cool an aim, and supported their fire with so much steadiness, that the British gave way, and fled to the water's edge. Here they were rallied by their officers, and a second time led to the charge. A second time they retreated, and all seemed to be lost, when General Howe, aided by General Clinton, who, seeing his distress, had crossed over from Boston to join him, with difficulty persuaded them to make another onset, which was successful. The Americans had expended their ammunition, and were unable to procure a fresh supply. Their redoubt being forced, they were compelled to retreat; but though the road over Charlestown Neck, by which they retired, was enfiladed by the *Glasgow* man-of-war, they withdrew with much less loss than might have been expected: they left dead on the field 139 of their comrades, and their wounded and missing amounted to 314. Amongst the valuable lives which were sacrificed in this battle, the Americans were sensibly affected by the loss of Dr. Warren, who was slain whilst standing on the redoubt, animating his fellow soldiers to the most valorous exertions. Warren was a man of eminent talents, and of most amiable manners in private and domestic life. He excelled as an orator, and he was wise and prudent in council, and the circumstances of his death evinced that he could act as well as speak, and that the mildness of his character was united with firm determination and undaunted courage. The British purchased their victory dearly, their loss amounting to 226 killed and 828 wounded, including 79 officers: at this cost General Gage obtained little more than the field of battle. At the conclusion of the engagement he advanced to Bunker's Hill, which he for-

tified; whilst the Americans entrenched themselves on Prospect Hill, distant about a mile and a half from his lines,

§ 14. *Union of the Thirteen Provinces*
—*Hancock appointed President, and*
Washington Commander-in-Chief.

When Colonel Allen appeared at the gates of Ticonderoga, on the 10th of May, he summoned that fortress "in the name of the Great Jehovah and the continental Congress." On the very day on which this summons was given that body assembled, and had the satisfaction to find itself joined by delegates from Georgia—so that the union of the thirteen provinces was now completed. Peyton Randolph, Esq., was appointed president; but urgent business soon after requiring his presence at home, he was succeeded by Mr. Hancock. After mature deliberation, the Congress agreed on addresses to the British nation, to the Canadians, to Ireland, and to the Island of Jamaica, in which they insisted upon the topics upon which they had antecedently dwelt in similar compositions. Fearful also lest, in case of the continuance of hostilities with the mother country, their frontier should be devastated by the Indians, a *talk* was prepared in which the controversy between Great Britain and her colonies was *explained* in a familiar Indian style. They were told that "they had no concern in the family quarrel, and were urged by the ties of ancient friendship and a common birth place, to remain at home, to keep their hatchet buried deep, and to join neither side." Such is the statement of Mr. Ramsay; and so far as Congress is concerned, no doubt that respectable historian is correct. But had he carefully examined the official correspondence of General Washington, he would have found, from a letter of his dated August 4, 1775, that the American commander-in-chief did not limit his views to neutrality on the part of the Indians, but that he took measures to secure the co-operation of the Caghnewaga tribe, in the event of any expedition being meditated against Canada. Still aiming, with however faint hopes, at conciliation, the Congress drew up another humble and pathetic petition to the King, which was delivered on the ensuing September by their agents to Lord Dartmouth, the colonial secretary of state, who informed them that no answer would be returned to it. They did not, however, confine them-

selves to literary controversy, but took measures for depriving the British troops of supplies. They also resolved to raise an army sufficient to enable them to cope with the enemy, and issued, for its equipment and pay, bills of credit to the value of two millions of dollars. With a happy unanimity they appointed George Washington commander-in-chief of their forces. Soon after he received his commission, the general repaired to the head quarters at Cambridge, in the vicinity of Boston, where he arrived on the 3rd of July, and was received with joyful acclamations by the troops. The army consisted of 14,500 men, and occupied cantonments so disposed as closely to beleaguer the enemy within Boston. The soldiers were hardy, active, and zealous. But still, when the general had minutely inspected the state of affairs, he found ample matter for serious reflection. He was destitute of a responsible commissariat to procure and dispense the necessary supplies. Many of the soldiers were ill-provided with arms. On the 4th of August he was apprized of the alarming fact that his whole stock of powder would afford little more than nine rounds a man. On the settling of the rank of officers, also, he had to encounter the ill-humour of the ambitious, who conceived that they were not promoted according to their merits. With his characteristic patience and assiduity, however, he overcame these difficulties. By the influence of the respect which his character inspired, he reduced these jarring elements to some degree of order. His encampments were regularly supplied with provisions. By extraordinary exertions he procured a sufficient stock of ammunition and military stores; and though the well-dressed scouting parties of the British who approached his lines could not repress a smile on seeing his soldiers equipped in hunting shirts, the affair at Breed's Hill had taught them that a handsome uniform is by no means essential to bravery in battle.

On the 10th of October, General Gage resigned the command of the British army to General Howe, and sailed for England in a vessel of war. Had he made the voyage in a transport, he would have run some risk of being taken prisoner; for towards the close of this year (1775) Congress fitted out several privateers, which were eminently successful in capturing the store ships which had been sent from Great Britain with supplies for the royal army. These captures

at once crippled the enemy and furnished the Americans with important requisites for carrying on the war.

§ 15. *Invasion of Canada—Death of Montgomery.*

Nor were the offensive operations of the provincials confined to the sea. Having, as has been before related, obtained possession of Ticonderoga, which is the key of Canada, the Congress determined to invade that province, in the hope that its inhabitants would welcome the forces which they might send against it, as their deliverers from the yoke of oppression. They accordingly gave the command of 1000 men to Generals Schuyler and Montgomery, with directions to march into Canada. When the expedition had advanced to the town of St. John's, Schuyler, in consequence of the bad state of his health, resigned the command to his associate, and returned home. In attacking St. John's, the commander of which made a brave defence, Montgomery experienced considerable difficulties in consequence of his want of the chief requisites for conducting a siege; but he vanquished them all, and compelled the garrison, consisting of 500 regulars and 100 Canadians, to surrender. During the progress of the siege, Sir Guy Carleton, the Governor of Canada, had collected 800 men at Montreal, for the purpose of attacking the besieging army; but he was driven back by a body of the Vermont militia, commanded by General Warner. Montgomery, therefore, proceeded to Montreal, the garrison of which attempted to escape down the river, but were intercepted and captured by the American Colonel Easton: and Governor Carleton himself was so hard pressed, that he was glad to escape to Trois Rivières, whence he proceeded to Quebec. To this place he was pursued by Montgomery, who, in the course of his march, adopted the wisest measures to gain over the inhabitants of the province. With the peasants he succeeded; but upon the priests and the seigneurs, or feudal lords, who foresaw that a revolution would be detrimental to their interests, he made little impression.

Whilst Montgomery was penetrating into Canada by the St. Lawrence, General Arnold, who afterwards rendered himself infamous by his treachery, was advancing to co-operate with him by the way of the Kennebeck river and the

Chaudière. This route appears upon the map to be a very direct one; but it was beset with formidable difficulties. In their voyage up the Kennebeck, Arnold and his comrades had to pull against a powerful stream interrupted by rapids, over which they were obliged to haul their boats with excessive labour. The space which intervenes between the mouth of the Kennebeck and that of the Chaudière was a wild and pathless forest, through a great part of which they were compelled to cut their way with hatchets; and so scantily were they furnished with provisions, that when they had eaten their last morsel they had thirty miles to travel before they could expect any farther supplies. In spite of these obstructions, Arnold persevered in his bold enterprize; and on the 8th of November he arrived at Point Levi, opposite Quebec; and had he possessed the means of immediately passing the St. Lawrence, such was the panic occasioned by his unexpected appearance, that it is probable that the city, in the absence of the Governor, would have surrendered to him. But whilst he was collecting craft to effect his passage, the inhabitants recovered from their consternation, the Governor arrived, and the place was put in a posture of defence. On the 1st of December, Montgomery, having effected a junction with Arnold, broke ground before Quebec. But he laboured under insuperable disadvantages. His forces were inferior in number to those of the garrison. He was destitute of a proper battering train. His soldiers were daily sinking under the hardships of a Canadian winter; and their term of enlistment was soon to expire. Seeing that no hopes were left, but that of the success of a desperate effort, he attempted to carry the city by assault, and had penetrated to the second barrier, when he fell by a musket shot, leaving behind him the character of a brave soldier, an accomplished gentleman, and an ardent friend of liberty. Arnold was carried wounded from the field; but on the death of his friend he took the command of the remnant of his forces, which he encamped at the short distance of three miles from the city.

§ 16. *Evacuation of Boston, March 17, 1776.*

Whilst these transactions were carrying on to the northward of the

American continent, the inhabitants of the middle and southern provinces were employed in preparing for resistance against the demands of the British government, and in general compelled such of their governors as took any active measures for the support of royal authority, to consult for their safety by taking refuge on board of ships of war. In Virginia, the imprudence of Lord Dunmore provoked open hostilities, in the course of which he burned the town of Norfolk. By this act, however, and by a proclamation, in which he promised freedom to such of the negroes as should join his standard, he only irritated the provincials, without doing them any essential injury; and being finally driven from the colony, he returned to England.

Towards the close of this year, the commander-in-chief of the American forces found himself in circumstances of extreme embarrassment. "It gives me great distress," thus he wrote in a letter to Congress of the date of Sept. 21, 1775, "to be obliged to solicit the attention of the honourable Congress to the state of this army, in terms which imply the slightest apprehension of being neglected. But my situation is inexpressibly distressing, to see the winter fast approaching upon a naked army; the time of their service within a few weeks of expiring; and no provision yet made for such important events. Added to these, the military chest is totally exhausted: the paymaster has not a single dollar in hand: the commissary-general assures me he has strained his credit, for the subsistence of the army, to the utmost. The quartermaster-general is precisely in the same situation; and the greater part of the troops are in a state not far from mutiny upon the deduction from their stated allowance." The fact is, that the troops had engaged in the service of their country with feelings of ardent zeal; but, with a mistaken idea that the contest would be decided by a single effort, they had limited the time of their service to a short period, which was ready to expire. Congress had appointed a committee, consisting of Dr. Franklin and two other individuals, to organize an army for the year 1776. But when these gentlemen repaired to head quarters, and sounded the dispositions of the troops as to a second enlistment, they did not find in them the alacrity which they expected. The soldiers

were, as they had evinced in all services of danger, personally brave; but they were unaccustomed to the alternate monotony and violent exertion of a military life, and their independent spirit could ill brook the necessary restraints of discipline. From these causes so many quitted the camp when the term of their service was expired, that on the last day of the year Washington's muster-roll contained the names of only 9650 men. By the exertions of the committee, however, these were speedily reinforced by a body of militia, who increased their numbers to 17,000. Upon these circumstances, the commander-in-chief, in one of his despatches to Congress, made the following striking remarks. "It is not in the pages of history, perhaps, to furnish a case like ours—to maintain a post within musket-shot of the enemy for six months together without ammunition, and, at the same time, to disband one army and recruit another, within that distance of twenty odd British regiments is more, probably, than ever was attempted. But if we succeed as well in the last, as we have heretofore in the first, I shall think it the most fortunate event of my whole life." It may be permitted us to conjecture that in these circumstances the uneasiness of Washington was enhanced by his consciousness of the risk which he ran in thus communicating the secret of his difficulties to so numerous a body as the Congress. Had there been found one coward, one traitor, or even one indiscreet individual in that assembly, the British general would have been apprized of the vast advantages which he had over his antagonist; he would have adopted the offensive, and the cause of American independence would have been lost. But every colonial senator was faithful to his trust. Every one was silent as to the real situation of the army; and the commander-in-chief still confidently presented a bold front to the enemy. It was well known that the British troops in Boston were much straitened for provisions; and the militia having joined the army in expectation of immediate battle, were eager for the onset, and murmured at the delay of the general in giving the signal for an assault on the town. They were little aware of the distresses by which he was embarrassed. Notwithstanding the Congress had even sent to the coast of Africa to purchase gunpowder, his magazines still contained but a scanty stock of that essential article, and many

of his troops were destitute of muskets. But he kept to himself the important secret of the deficiency of his stores, and patiently submitted to the criticisms which were passed on his procrastination, till he had made the requisite preparations. He then proposed to storm the British lines; but was advised by his council of war, in preference to this measure, to take possession of Dorchester heights, an eminence which from the southward commands the harbour and city of Boston. To this advice he acceded, and having diverted the attention of the British garrison by a bombardment, which was merely a feint, on the night of the 4th of March he pushed forward a working party of 1200 men, under the protection of a detachment of 800 troops. The Americans were very expert in the use of the spade and pickaxe, and by day-break they had completed respectable lines of defence. The British admiral no sooner beheld these preparations, than he sent word to General Howe, that if the Americans were not dislodged from their works he could not with safety continue in the harbour. On the 6th, Howe had completed his arrangements for the attack of the enemy's lines, and a bloody battle was expected; but the transports in which his troops were embarked for the purpose of approaching the heights by water were dispersed by a storm; and the enemy so industriously took advantage of the consequent suspension of his operations to strengthen their position, that when the storm subsided he despaired of success in attacking it. Finding the town no longer tenable, he evacuated it on the 17th of March, and sailed with his garrison, which amounted to 7000 men, to Halifax in Nova Scotia.

In consequence of an implied threat on the part of General Howe, that if he was interrupted by any hostile attack during the embarkation of his troops, he would set fire to the town, the British were allowed to retire without molestation, though their commander, immediately before his departure, levied considerable requisitions for the use of his army upon the merchants who were possessed of woollen and linen goods; and though the soldiery, availing themselves of the relaxation of military discipline which usually accompanies the precipitate movements of troops, indulged themselves, in defiance of orders issued to the contrary, in all the license

of plunder. Previously to the evacuation of the place, Howe spiked all the cannon and mortars which he was obliged to leave behind him, and demolished the fortifications of Castle William. Immediately on the withdrawing of the royal forces, Washington entering Boston in triumph, was hailed as a deliverer by the acclamations of the inhabitants. He also received the thanks of the Congress and of the legislature of Massachusetts; and a medal was struck in honour of his services in expelling the invaders from his native land.

The exultation which the Americans felt at the expulsion of the British from Boston was tempered by the arrival of sinister intelligence from Canada. In sending an expedition into that country, Congress had been influenced by two motives: they wished at once to secure the junction of the inhabitants of that province to their union, and to protect their own northern frontier from invasion. But the Canadians were little prepared for the assertion of the principles of freedom; and the rapacity of the unprincipled Arnold, and the misconduct of his troops, had alienated their affections from the common cause. Congress, however, by extraordinary exertions, sent to the camp before Quebec reinforcements, which, by the 1st of May, increased Arnold's army to the number of 3000 men. But his forces were unfortunately weakened by the ravages of the small-pox; and reinforcements from England having begun to arrive at Quebec, he determined upon a retreat. In this retrograde movement the American army had to encounter difficulties, which to ordinary minds would have seemed insurmountable. On their march through almost impracticable roads, they were closely followed, and frequently brought to action, by an enemy superior in number. In an ill-advised attack on Trois Rivières they sustained considerable loss, and their forces were for a time separated, and almost dispersed. But notwithstanding these disasters, General Sullivan, who conducted the retreat, contrived to save his baggage, stores, and sick, and led back a respectable remnant of his army to Crown Point, where he resolved to make a stand. Being well aware of the necessity of guarding this quarter of their frontier against the incursions of the British, the Congress sent thither an army of 12,000 men, under the command of

General Gates, who cast up strong works at Ticonderoga, and endeavoured to retain the command of Lake Champlain by means of a flotilla, which was built and equipped with a rapidity hitherto unheard of. General Carleton, however, was not behind-hand with him in activity. He speedily fitted out a superior armament, by means of which he took or destroyed almost the whole of the American vessels. Having thus made himself master of the lake, he advanced to the vicinity of Ticonderoga; but finding that port too strongly fortified, and too well garrisoned to be taken by assault, he returned to Quebec. Valour and military skill were not the highest characteristics of Sir Guy Carleton.—The kindness which he manifested to his prisoners, and especially to the sick and wounded of the Americans who fell into his hands, entitle him to the superior praise of humanity.

§ 17. *Declaration of Independence, 4th July, 1776.*

When the British ministry took the resolution to coerce the discontented colonies by force of arms, they were little aware of the difficulty of their undertaking; and, consequently, the means which they adopted for the execution of their designs were by no means commensurate with the object which they had in view. But when they met the parliament in October, 1775, they were obliged to confess that the spirit of resistance to royal authority was widely diffused throughout the North American provinces, that rebellion had assumed a bold front, and had been alarmingly successful. To supply them with the means of suppressing it, parliament readily voted the raising and equipment of 28,000 seamen, and 55,000 land forces. The bill which provided for this powerful armament also authorized his majesty to appoint commissioners, who were to be empowered to grant pardons to individuals, to inquire into and redress grievances, and to receive any colonies, upon their return to obedience, into the king's peace.

When the colonists were apprized of the bill having been passed into a law, they treated the offer of pardon with contempt, and contemplated with anger, but not with dismay, the formidable preparations announced by its provisions. Their irritation was excited to the highest pitch when they were informed that Lord

North had engaged 16,000 German mercenaries to assist in their subjugation. Nor did this measure escape severe animadversion in the British parliament. It was warmly censured by many members of the opposition, especially by Mr. Adair and Mr. Dunning, who maintained that, in engaging the services of foreign mercenaries without the previous consent of parliament, ministers had violated the provision of the Bill of Rights, and that by this infringement of the Constitution they had set a precedent which might be made available by some future arbitrary monarch to the destruction of the liberties of the country.

The command of the British forces was given to General Howe, who, in arranging the plan of the campaign, determined, first, after driving the enemy from Canada, to invade their country by the north-western frontier. 2dly, to subdue the southern colonies; and, 3dly, to strike at the centre of the union by conquering the province of New York, from which, by means of the Hudson river, he should be able to co-operate with the royal army in Canada. The latter province having been already rescued from the invaders by Sir Guy Carleton, General Howe committed the execution of the second part of his plan to General Clinton and Sir Peter Parker, who having effected a junction at Cape Fear, resolved to make an attack upon Charlestown. They accordingly sailed up Ashley river, on which that place is situated; but they encountered so determined an opposition from a fort hastily erected on Sullivan's Island, and commanded by Colonel Moultrie, that, after sustaining considerable loss of men, and much damage to their shipping, they gave up their enterprize and sailed to New York. The result of this attempt was highly favourable to the Americans, as it consoled them for their losses in the north, inspired them with new confidence, and, for the ensuing two years and a half, preserved the southern colonies from the presence of a hostile force.

The command of the principal British fleet, destined to co-operate with General Howe, had been bestowed upon his brother Sir William, who, when his equipment was finished, sailed directly for Halifax. On his arrival at that place, he found that the general, impatient of his delay, had proceeded on his voyage towards New York, whither he immediately followed him, and joined

him at Staten Island. On this junction of the two brothers, their forces were found to amount to 30,000 men; and never, perhaps, was an army better equipped, or more amply provided with artillery, stores, and every requisite for the carrying on of vigorous and active hostilities. Far different was the condition of the American commander-in-chief. His troops, enlisted for short periods, had acquired little discipline. They were scantily clothed and imperfectly armed. They were frequently in want of ammunition; and they were ill-supplied with provisions. Disaffection to the cause of their country was also manifested by some of the inhabitants of New York, who, at the instigation of Governor Tryon, had entered into a conspiracy to aid the king's troops on their expected arrival. In this plot, even, some of the army had been engaged; and a soldier of the commander-in-chief's own guard had, by the unanimous sentence of a court martial, been sentenced to die for enrolling himself among the conspirators, and enlisting others in the same traitorous cause. In these circumstances Washington could not but regard the approaching contest with serious uneasiness; but he, as usual, concealed his uneasiness within his own bosom, and determined to fight to the last in the cause of his country. His firmness was participated by the Congress, who, whilst the storm seemed to be gathering thick over their heads, beheld it with eyes undismayed, and now proceeded with a daring hand to strike the decisive stroke which for ever separated thirteen flourishing colonies from their dependence on the British crown. It is possible, nay, it is probable, that from the beginning of the disputes with the mother country, there may have been some few speculators among the American politicians, who entertained some vague notions and some uncertain hopes of independence. In every age, and in every country, there are individuals whose mental view extends to a wider circle than that of the community at large, and unhappy is their destiny if they attempt to bring their notions into action, or even to promulgate them before the season is ripe unto the harvest. But no such precipitancy was found amongst the partisans of American liberty. Like Franklin, for year after year, they limited their wishes to an exemption from parliamentary

taxation, and to a preservation of their chartered rights and privileges. But the violent measures of the British ministers altered their sentiments, and the spectacle of their countrymen mustering in arms to resist ministerial oppression, prompted them to bolder daring. Finding that the British cabinet had hired foreign troops to assist in their subjugation, they foresaw that they might be reduced to apply to foreign aid to help them in their resistance against oppression. But what power would lend them aid whilst they retained the character of subjects of his Britannic Majesty. Sentiments such as these, having been industriously and successfully disseminated throughout the union, the Congress on the 4th of July, 1776, whilst the formidable array of the British fleet was hovering on their coasts, on the motion of Mr. Richard Henry Lee, representative of Virginia, passed their celebrated declaration of independence, by which act they for ever withdrew their allegiance from the king of Great Britain. This important document is couched in the following terms:—

“When, in the course of human events, it becomes necessary for one people to dissolve the political bands which have connected them with another, and to assume among the powers of the earth, the separate and equal station to which the laws of nature and of nature's God entitle them, a decent respect to the opinions of mankind requires that they should declare the causes which impel them to the separation.

“We hold these truths to be self-evident, that all men are created equal; that they are endowed by their Creator with certain unalienable rights, that among these are life, liberty, and the pursuit of happiness; that to secure these rights, governments are instituted among men, deriving their just powers from the consent of the governed; that whenever any form of government becomes destructive of these ends, it is the right of the people to alter or to abolish it, and to institute new government, laying its foundation on such principles, and organizing its power in such form, as to them shall seem most likely to effect their safety and happiness. Prudence, indeed, will dictate that governments long established, should not be changed for light and transient causes; and, accordingly, all experience hath shewn, that mankind are more disposed to suffer, while evils

are sufferable, than to right themselves by abolishing the forms to which they are accustomed. But when a long train of abuses and usurpations, pursuing invariably the same object, evinces a design to reduce them under absolute despotism, it is their right—it is their duty, to throw off such government, and to provide new guards for their future security. Such has been the patient sufferance of these colonies, and such is now the necessity which constrains them to alter their former system of government. The history of the present King of Great Britain, is a history of repeated injuries and usurpations, all having in direct object, the establishment of an absolute tyranny over these states. To prove this, let facts be submitted to a candid world.

“He has refused his assent to laws the most wholesome and necessary for the public good.

“He has forbidden his governors to pass laws of immediate and pressing importance, unless suspended in their operation till his assent should be obtained; and when so suspended, he has utterly neglected to attend to them.

“He has refused to pass other laws for the accommodation of large districts of people, unless those people would relinquish the right of representation in the legislature—a right inestimable to them, and formidable to tyrants only.

“He has called together legislative bodies at places unusual, uncomfortable, and distant from the depository of their public records, for the sole purpose of fatiguing them into compliance with his measures.

“He has dissolved representative houses repeatedly, for opposing, with manly firmness, his invasions on the rights of his people.

“He has refused, for a long time after such dissolutions, to cause others to be elected, whereby the legislative powers, incapable of annihilation, have returned to the people at large for their exercise; the state remaining in the mean time exposed to all the danger of invasion from without, and convulsions within.

“He has endeavoured to prevent the population of these states, for that purpose obstructing the laws for naturalization of foreigners, refusing to pass others to encourage their migration hither, and raising the conditions of new appropriations of lands.

“He has obstructed the administra-

tion of justice, by refusing his assent to laws for establishing judiciary powers.

“He has made judges dependent on his will alone for the tenure of their offices and the amount and payment of their salaries.

“He has erected a multitude of new offices, and sent hither swarms of officers to harass our people, and eat out their substance.

“He has kept among us, in time of peace, standing armies, without the consent of our legislatures.

“He has affected to render the military independent of, and superior to, the civil power.

“He has combined with others to subject us to a jurisdiction foreign to our constitution, and unacknowledged by our laws, giving his assent to their acts of pretended legislation;

“For quartering large bodies of armed troops among us;

“For protecting them, by a mock trial, from punishment for any murders which they should commit on the inhabitants of these states;

“For cutting off our trade with all parts of the world;

“For imposing taxes upon us without our consent;

“For depriving us, in many cases, of the benefits of trial by jury;

“For transporting us beyond the seas to be tried for pretended offences;

“For abolishing the free system of English laws in a neighbouring province, establishing therein an arbitrary government, and enlarging its boundaries, so as to render it at once an example and fit instrument for introducing the same absolute rule into these colonies;

“For taking away our charters, abolishing our most valuable laws, and altering fundamentally the form of our governments;

“For suspending our own legislatures, and declaring themselves invested with power to legislate for us in all cases whatsoever.

“He has abdicated government here, by declaring us out of his protection, and waging war against us.

“He has plundered our seas, ravaged our coasts, burnt our towns, and destroyed the lives of our people.

“He is, at this time, transporting large armies of foreign mercenaries to complete the works of death, desolation, and tyranny already begun, with circum-

stances of cruelty and perfidy scarcely paralleled in the most barbarous ages, and totally unworthy the head of a civilized nation.

"He has constrained our fellow citizens, taken captive on the high seas, to bear arms against their country, to become the executioners of their friends and brethren, or to fall themselves by their hands.

"He has excited domestic insurrections among us, and has endeavoured to bring on the inhabitants of our frontiers, the merciless Indian savages; whose known rule of warfare is an undistinguished destruction of all ages, sexes, and conditions.

"In every stage of these oppressions we have petitioned for redress in the most humble terms; our repeated petitions have been answered only by repeated injury. A prince, whose character is thus marked by every act which may define a tyrant, is unfit to be the ruler of a free people.

"Nor have we been wanting in attention to our British brethren. We have warned them from time to time of attempts made by their legislature to extend an unwarrantable jurisdiction over us. We have reminded them of the circumstances of our emigration and settlement here. We have appealed to their native justice and magnanimity, and we have conjured them, by the ties of our common kindred, to disavow these usurpations, which would inevitably interrupt our connexions and correspondence. They too have been deaf to the voice of justice and consanguinity. We must, therefore, acquiesce in the necessity, which denounces our separation, and hold them as we hold the rest of mankind—enemies in war, in peace, friends.

"We, therefore, the representatives of the United States of America, in General Congress assembled, appealing to the Supreme Judge of the world for the rectitude of our intentions, do in the name, and by authority of the good people of these colonies, solemnly publish and declare, that these united colonies are, and of right ought to be, FREE and INDEPENDENT STATES; that they are absolved from all allegiance to the British crown; and that all political connexion between them and the state of Great Britain is, and ought to be, totally dissolved; and that, as free and independent states,

they have full power to levy war, conclude peace, contract alliances, establish commerce, and do all other acts and things which independent states may, of right, do. And, for the support of this declaration, with a firm reliance on the protection of Divine Providence, we mutually pledge to each other our lives, our fortunes, and our sacred honour."

§ 18. *Capture of Long Island, 26th August, 1776.*

General Washington was well aware that New York would be the first object of attack on the part of the British; and despairing of being able to encounter them in the open field, he resolved to protract the approaching campaign by carrying on a war of posts. With this view, after fortifying Long Island, he threw up various entrenchments on New York Island, which is bounded on the west by the Hudson, and on the south and east by East River, whilst to the north it is separated from the main land by a narrow channel which unites these two streams. He also constructed two forts, the one on the Hudson named Fort Washington, by which he proposed to maintain his communication with Jersey, whilst the other, called Fort Lee, connected his defence with the province of New York. Whilst he was making these preparations he received from Pennsylvania a seasonable reinforcement of 10,000 men, raised for the express purpose of forming a flying camp; but he was disappointed in his expectation of the aid of a large body of militia. Independently of the flying camp, his forces, at this moment of peril, amounted only to 17,225 men.

Before commencing hostilities, the Howes, with a view of conciliation, or of detaching the wavering amongst the colonists from the cause of the Congress, issued a proclamation, offering pardon to such of his majesty's rebellious subjects as would lay down their arms, and announcing their powers, on the fulfilment of certain conditions, to receive any colony, district, or place, into the king's peace. This proclamation produced no effect beyond the districts from time to time occupied by the royal army. General Howe also endeavoured to open a correspondence with Washington, for the purpose of laying a ground for the amicable adjustment of all differences between the colonies and

the mother country; but as the British commander did not recognize the official character of Washington in the address of his letter, it was returned unopened, and thus this attempt at negotiation failed.

Those who are accustomed to the rapid proceedings of more modern warfare, cannot give to General Howe the praise due to activity. Though he arrived at Staten Island on the 10th of June, it was not till the 26th of August that he commenced active operations against the enemy by an attack on Long Island, on the north-western part of which a respectable force of Americans, commanded by General Sullivan, occupied an entrenched camp. Their position was protected in front by a range of hills stretching across the island, from the Narrows, a strait which separates it from Staten Island, to the town of Jamaica, situated on the southern coast. Over the hills in question pass three defensible roads, each of which was guarded by 800 men. The pass by the Narrows was attacked and carried by General Grant—the second, by Flatbush, was cleared by General de Heister, in retreating before whom the Americans were encountered by General Clinton, who with the right wing of the British army, had made a detour by Jamaica. Thus the provincials were driven into their lines with the loss of upwards of 1000 men, whilst the British loss did not amount to more than 450. During the engagement Washington had sent strong reinforcements into Long Island, and, at its close, he repaired thither in person with the greater part of his army. This movement had nearly occasioned his ruin. He soon found himself cooped up in a corner, with a superior force in front prepared to attack his works, which were untenable. In these circumstances his only safety lay in retreat. It was a difficult operation to convey a whole army across a ferry in the presence of an enemy, whose working parties could be heard by his sentries. But favoured by the darkness of the night, and by a fog which arose in the morning, he transported the whole of his force to New York, leaving nothing behind him but some heavy cannon.

§ 19. *Evacuation of New York, 1st September, 1776.*

Among the prisoners taken by the British on Long Island was General

Sullivan, whom General Howe sent on his parole with a message to Congress, renewing his offers to negotiate for an amicable accommodation. The Congress sent a committee of three of their body—Dr. Franklin, John Adams, and Edward Rutledge, to confer with him on the subject of his communication. These deputies were received with great politeness by General Howe; but, after a full discussion with the British commander, they reported to Congress that his proposals were unsatisfactory, and his powers insufficient. Their report concluded in the following terms:—"It did not appear to your Committee that his lordship's commission contained any other authority than that expressed by the act of parliament—namely, that of granting pardons, with such exceptions as the commissioners shall think proper to make, and of declaring America or any part of it to be in the king's peace on submission: for, as to the power of inquiring into the state of America, which his lordship mentioned to us, and of conferring and consulting with any persons the commissioners might think proper, and representing the result of such conversation to the ministry, who, provided the colonies would subject themselves, might, after all, or might not, at their pleasure, make any alterations in the former instructions to governors, or propose in parliament any amendment of the acts complained of; we apprehend any expectation from the effect of such a power would have been too uncertain and precarious to be relied on by America, had she still continued in her state of dependence." This attempt at negotiation having thus fruitlessly terminated, nothing was left but to decide the dispute by arms.

The Congress embraced this alternative in circumstances which would have reduced men of less resolute spirits to despair. Their army was so dispirited by the events which had taken place in Long Island, that the militia began to desert, and the constancy of some of the regulars was shaken. They were apprized, too, that Washington foresaw the necessity of making a series of retrograde movements, which were calculated to cloud the public mind with despondency. The prognostics of the general were soon verified. On the 15th of September, General Howe effected a landing on New York Island,

and compelled him to evacuate the city of New York, and to retire to the north end of the island. Here Howe unaccountably suffered him to remain unmolested for nearly four weeks, at the end of which time he manœuvred to compel him to give him battle on the island. Dreading the being reduced to this perilous necessity, the American commander withdrew to the White Plains, taking, however, every opportunity to front the enemy, and engaging in partial actions, which in some degree kept the British in check. At length he crossed the Hudson, and occupied some strong ground on the Jersey shore of that river, in the neighbourhood of Fort Lee. He had no sooner evacuated New York Island than General Howe attacked and took Fort Washington, in which he made 2700 men prisoners, at the cost, however, of 1200 men on his side killed and wounded. Fort Lee was shortly after evacuated by its garrison, and taken possession of by Lord Cornwallis. Following up these successes, General Howe pursued the flying Americans to Newark, and from Newark to Brunswick, and from Brunswick successively to Princeton and Trenton, till at length he drove them to the Pennsylvania side of the Delaware. Nothing could exceed the distress which the American army suffered during this retreat through the Jerseys. They were destitute of blankets and shoes, and their clothing was reduced to rags. They were coldly looked upon by the inhabitants, who gave up the cause of America for lost, and hastened to make their peace with the victors. Had General Howe been able to maintain discipline in his army, Jersey would have been severed from the Union. But, fortunately for the interests of the congress, his troops indulged in all the excesses of military violence, and irritated the inhabitants of the country to such a degree, that their new-born loyalty was speedily extinct, and all their thoughts were bent upon revenge.

§ 20. *Battle of Trenton, 28th December, 1776.*

On the approach of the British to the Delaware, congress adjourned its sittings from Philadelphia to Baltimore, and it was expected that General Howe would speedily make his triumphal entry into the Pennsylvanian capital. But a bold manœuvre of Washington

suddenly turned the tide of success. On his arrival at the Delaware, his troops were dwindled down to the number of 3000 ; but having received some reinforcements of Pennsylvanian militia, he determined to endeavour to retrieve his fortunes by a decisive stroke. The British troops were cantoned in Burlington, Bordenton, and Trenton, waiting for the formation of the ice to cross into Pennsylvania. Understanding that in the confidence produced by a series of successes, they were by no means vigilant, he conceived the possibility of taking them by surprise. He accordingly, on the evening of Christmas Day, conveyed the main body of his army over the Delaware, and falling upon the troops quartered in Trenton, killed and captured about 900 of them, and recrossed into Pennsylvania with his prisoners. On the 28th of December he again took possession of Trenton, where he was soon encountered by a superior force of British, who drove in his advanced parties, and entered the town in the evening, with the intention of giving him battle the next morning. The two armies were separated only by a narrow creek which runs through the town. In such a position it should seem to be impossible that any movement on the one side or on the other could pass unobserved. But in the darkness of the night, Washington, leaving his fires lighted, and a few guards to attract the attention of the enemy, quitted his encampment, and, crossing a bridge over the creek, which had been left unguarded, directed his march to Princeton, where, after a short but brisk engagement, he killed 60 of the British, and took 300 prisoners. The rest of the royal forces were dispersed and fled in different directions. Great was the surprise of Lord Cornwallis, who commanded the British army at Trenton, when the report of the artillery at Princeton, which he at first mistook for thunder, and the arrival of breathless messengers, apprized him that the enemy was in his rear. Alarmed by the danger of his position, he commenced a retreat ; and, being harassed by the militia and the countrymen who had suffered from the outrages perpetrated by his troops on their advance, he did not deem himself in safety till he arrived at Brunswick, from whence, by means of the Rariton, he had a communication with New York.

This splendid success inspired the

Americans with renewed spirits. Recruits were readily raised for their army, which took up its winter quarters at Morristown, about thirty miles to the northward of Brunswick: here both the officers and soldiers were inoculated for the small-pox. During this interval of comparative leisure, Washington urgently renewed the representations which he had before frequently made to the congress, of the necessity of abandoning the system of enlisting men for limited terms of service. The dread justly entertained by that body of a standing army had hitherto induced them to listen coldly to his remonstrances on this point. But the experience of the last campaign corrected their views, and they resolved to use their utmost exertion to raise an army pledged to serve till the conclusion of the war. The free spirit of the Americans, however, could not brook enlistment for a time so undefined, and the congress therefore issued proposals for a levy of soldiers to be engaged for three years, at the same time offering a bounty of 100 acres of land to those who would accept their first proposals. Though these measures in the end proved effectual, their accomplishment was slow, and in the spring of 1777, Washington's whole force did not amount to more than 1500 men; but with these inconsiderable numbers he so disposed his posts, that with the occasional assistance of the New Jersey militia and volunteers, he for some weeks kept the British in check at Brunswick. At this period, the difficulties under which he had so long laboured from the want of arms and military stores, were alleviated by the arrival of upwards of 20,000 muskets and 1000 barrels of powder, which had been procured in France and Holland by the agency of the celebrated dramatist, Carron de Beaumarchais.

Late in the spring of 1777, however, the utmost exertions of congress in forwarding the recruiting service could put no more than 7272 effective men at the disposal of General Washington. With this small force it was manifestly his policy to gain time, and by occupying advantageous ground, to avoid being forced to a general engagement. With a view, however, of inspiring his countrymen, he took the field before the enemy had quitted their winter-quarters, and towards the end of May he made a movement from Morristown to Middlebrook, where he encamped in a strong

position. General Howe no sooner heard that the Americans were in motion, than he advanced from Brunswick to Somerset-court House, apparently with an intention of pushing for the Delaware; but the country rising in arms on every side of him, he was deterred from prosecuting this design, and hastily measured back his steps to his former position. On their retreat, his troops committed great ravages, and particularly incensed the inhabitants by burning some of their places of worship. After frequently trying in vain to entice Washington from his strong position, General Howe at length retired to Amboy. There learning that his adversary had descended to Quibbletown, he hastened back to attack him; but had the mortification on his arrival at the spot lately occupied by the Americans, to learn that his vigilant foe had withdrawn into his fastnesses. Despairing of being able to penetrate into Pennsylvania by the way of the Jerseys, he passed over into Staten Island, from which point he resolved to prosecute the future views of his campaign by the assistance of his fleet. What those views might be, it was difficult for Washington to ascertain. The whole coast of the United States was open to the British commander-in-chief. He might at his pleasure sail to the north or to the south. General Washington was inclined to believe that his intention was to move up Hudson's river to co-operate with General Burgoyne, who was advancing with a large army on the Canadian frontier; and, impressed with this idea, he moved a part of his army to Peek's Kill, whilst he posted another portion at Trenton, to be ready, if required, to march to the relief of Philadelphia. Whilst he was in this state of uncertainty, he received intelligence that Howe had embarked with 16,000 men, and had steered to the southward. Still apprehending that this might be a feint, he cast an anxious eye to the northward, till he was further informed that the British general, after looking into the Delaware, had proceeded to the Chesapeake. The plans of the invaders were then clearly developed. It was evident that they intended to march through the northern part of the state of Delaware, and take possession of Philadelphia. Much time was lost to the British by their voyage, in consequence of unfavourable winds. Though they set sail on the 23rd of July, they

did not arrive at Elk-ferry, the place fixed upon for their landing, till the 25th of August. General Howe had no sooner disembarked his troops than he advanced through the country by forced marches, to within two miles of the American army, which, having proceeded rapidly from Jersey to the present scene of action, was stationed at Newport.

§ 21. *Capture of Philadelphia, 26th September, 1776.*

On the approach of the enemy General Washington resolved to dispute their passage over the Brandywine Creek. In taking this step he appears to have acted contrary to his better judgment. By throwing himself upon the high ground to his right, he might have brought on a war of posts, much better adapted to the capacities of his undisciplined forces, than a battle fought on equal terms. But he dreaded the impression which would be made upon the public feeling, should he leave the road to Philadelphia open, and yielded to the general voice which called upon him to fight for the preservation of the seat of the American government. The action was fought at Chadd's ford, on the Brandywine, on the 11th of September. On this occasion Howe shewed his generalship by the skilfulness of his combinations. While a part of his army, under the command of General Knyp-hausen, made a false attack at the ford, a strong column, headed by Lord Cornwallis, crossing the Brandywine at its fork, turned the left of the Americans, and Knyphausen forcing a passage at that moment of alarm and confusion, the Americans gave way, and retired to Chester, their retreat being covered by Wooster's brigade, which preserved its ranks unbroken. Their loss in killed and wounded amounted to 1200. Among the latter was the Marquis de la Fayette, who, inspired with zeal for the cause of freedom, had, at the age of nineteen, quitted his country at considerable hazard, and entered into the American army, in which he at once obtained the rank of major-general. By the event of the battle of the Brandywine the country was in a great degree open to the British. Washington in vain made one or two attempts to impede their progress, and on the 26th of September, General Howe made his triumphant entry into Philadelphia. On

his approach the congress, who had returned thither from Baltimore, once more took flight, and withdrew first to Lancaster and afterwards to York town.

General Howe, on marching to the Pennsylvanian capital, had left a considerable number of troops at Germantown, a few miles from that place. As these were unsupported by the main body of his army, General Washington determined upon an attempt to cut them off. His plan was well laid, and the forces which he despatched on this expedition took the enemy by surprise, and at first drove all before them. But a check having been given them by a small party of the British who had thrown themselves into a stone house, they were soon opposed by the fugitives who had rallied in force, and obliged to retreat with loss.

When General Howe quitted New York for the purpose of gaining possession of Philadelphia, he was deterred from making his approaches by the Delaware, by the preparations made by the Americans to obstruct the navigation of that river. The principal of these consisted of a fort erected on Mud Island, which is situated in the middle of the river, about seven miles below the city. On a height on the Jersey side of the river, called Red Bank, they had erected a strong battery. The Channels on both sides of Mud Island were closed by strong and heavy chevaux de frize, through which was left a single passage closed by a boom. As it was absolutely necessary to make himself master of these works, in order to open a communication with his fleet, General Howe gave orders that they should be forced. In his first attack he was unsuccessful. In storming the battery of Red Bank, Count Donop was mortally wounded, and his troops were repulsed with considerable loss. But the bulk of the chevaux de frize having, by diverting the current of the river, deepened the channel on the Pennsylvania side of Mud Island, a ship of war mounted with twenty-four pounders was warped through it into a position where she could enfilade the fort, which, being no longer tenable, the garrison retired from it to Red Bank. By these operations General Howe obtained full command of the Delaware, and by its means every facility for the conveyance of supplies to his army.

Mr. Hancock having on the 29th of
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October of this year resigned the presidency of congress, on the 1st of November ensuing, Mr. Henry Laurens was appointed to succeed him.

§ 22. *Burgoyne's Expedition.*

When the news of General Howe's successes arrived in England, the great majority of the nation were transported with joy. In the defeat of Washington, the capture of Philadelphia, and the expulsion of the congress, the members of which were represented as miserable fugitives, seeking in trembling anxiety for a temporary shelter from the vengeance of the law, they fondly saw an earnest of the termination of the war by the submission of the rebels. But their exultation was speedily damped by the annunciation of the capture by these very rebels of a whole British army.

A cursory inspection of the map of the United States will suffice to shew, that for the purpose of their subjugation it was at this period of high importance to the British to form a communication with Canada by means of Hudson's River. This would have intersected the insurgent provinces, and by cutting off their intercourse with each other, and by hemming in the eastern states, which the British ministry regarded as the soul of the rebellious confederacy, would have exposed them to be overrun and conquered in detail. General Howe, therefore, was directed by the ministry to operate with a part of his army northwards from New York, whilst General Burgoyne was instructed to enter the state of New York by its north-western frontier, and to make his way good to Albany, where it was intended that he should form a junction with the forces which Howe should send to co-operate with him. The expediency of this plan was so obvious that it did not escape the foresight of the Americans, who, in order to obviate it, had strongly fortified Ticonderoga, and the adjacent height of Mount Independence. They had also taken measures to obstruct the passage from Lake Champlain, and had moreover strengthened the defences of the Mohawk river. For garrisoning these posts, and for conducting the requisite operations in the field, they gave orders to raise an army of 13,600 men.

The British army destined to act under Burgoyne consisted of 7000 regulars, furnished with every requisite

for war, especially with a fine train of artillery. These were supported by a number of Canadians, and a considerable body of Indians. It was arranged in the plan of the campaign, that whilst Burgoyne, at the head of these forces, should pour into the state of New York, from Lake Champlain, a detachment under the command of Colonel St. Leger should march towards Lake Ontario, and penetrate in the direction of Albany, by the Mohawk river, which falls into the Hudson a little above that town.

General Burgoyne arrived at Quebec on the 6th of May, and immediately putting himself at the head of his army, he proceeded up Lake Champlain to Crown Point. Here he was joined by the Indians, to whom he made a speech, in which he inculcated upon them the virtue of mildness, and strictly forbade them to destroy any persons except in battle. An ancient Iroquois chieftain, in the name of his comrades, promised strict compliance with the general's injunctions. From Crown Point the royal army directed its march to Ticonderoga. Here General Burgoyne expected to encounter a powerful opposition, as he well knew that the Americans had flattered themselves that by the fortifications which they had erected on it, they had rendered it almost impregnable. But the forces which had been destined to its defence had not arrived. General St. Clair had not men enough to man his lines. He saw his position nearly surrounded by the enemy, who were erecting a battery on a hill which commanded his intrenchments. In these circumstances, a council of war unanimously recommended to their commander the evacuation of Ticonderoga, which he effected with such good order and secrecy, that he was enabled to bring off a great part of the public stores. He left behind him, however, ninety-three pieces of ordnance, which fell into the hands of the British. The retreating Americans took the road to Skeensborough, which is situated at the southern extremity of Lake George. In their flight they were briskly pursued by General Fraser by land, whilst Burgoyne attacked and destroyed their flotilla on Lake George; and so closely were they pressed by this combined movement, that they were compelled to set fire to their stores and boats at Skeensborough, and take refuge in Fort Anne, a few miles to the

southward of that place. Here, however, they did not long find shelter. Their rear guard was attacked and routed by Colonel Fraser, at Hubberton; and Lieutenant-Colonel Hill having been sent forward from Skeensborough, by General Burgoyne, with the 9th regiment of foot, to make an assault on Fort Anne, the provincials, after a short, but brisk engagement, withdrew to Fort Edward, which is situated on the Hudson river. Here their scattered forces being collected, were found to amount to no more than 4400 men, who being unable to cope with their victorious pursuers, soon found themselves under the necessity of making another retrograde movement in the direction of Albany. This long series of successes filled the minds of the British with exultation. They had beaten the enemy in every encounter; had forced them from their fastnesses, and entertained sanguine hopes of driving them before them till the co-operating force which they presumed General Howe was sending up the Hudson should intercept their retreat, and put them between two fires. Burgoyne issued proclamations in the style of a conqueror, summoning the inhabitants of the district in which he was operating to aid his pursuit of the fugitive rebels. The assistance which he called for was very necessary, not for pursuit, but defence—his difficulties were now commencing. Instead of falling back from Skeensborough to Ticonderoga, and advancing from the latter place by Lake George, (a movement which he declined, as having the appearance of a retreat,) he determined to march across the country from Skeensborough to Fort Edward; but the road was so broken up—it was so intersected with creeks and rivulets, the bridges over which had been broken down, and so much embarrassed with trees cut down on each side, and thrown across it with entangled branches, that it was with immense labour he could advance a mile a day. When he had at length penetrated to Fort Edward, which he reached on the 30th of July, he found it abandoned by the enemy, who by their retreat left free his communication with Lake George, from which he obtained supplies of stores and provisions conveyed by land from Fort George to Hudson's river, and thence floated down to his camp.

§ 23. *Failure of Burgoyne's Expedition.*

This delay gave the Americans time to recover from the consternation into which they had been thrown by the loss of Ticonderoga, and the subsequent misfortunes of their army. Determined to make amends for their previous dilatoriness by instant activity, they flew to arms. The plundering of Jersey had taught them that peaceable conduct and submission afforded no protection against British rapine; and they were persuaded, that whatever might be the wishes of General Burgoyne, he had not power to restrain his Indian auxiliaries from practising their accustomed savage mode of warfare. Looking for safety, then, only to their swords, and judging from their knowledge of the country, that the farther the British commander advanced, the greater would be his difficulties, they hastened their reinforcements from every town and hamlet in the vicinity of the seat of war, and soon increased the army of St. Clair to the number of 13,000 men.

Whilst General Burgoyne was making his way to the Hudson, Lieutenant-Colonel St. Leger had arrived at the Mohawk river, and was laying siege to Fort Schuyler. Receiving intelligence that General Harkimer was hastening at the head of a body of troops to the relief of the place, he sent a detachment with instructions to lie in ambush on his line of march, and to cut him off. These instructions were so well obeyed, that Harkimer fell into the snare, his troops were dispersed, and he himself was killed. St. Leger now entertained sanguine hopes of speedily taking the fort; but the Indians who composed a considerable part of his little army, taking alarm at the news of the approach of General Arnold, at the head of a detachment, whose numbers were purposely exaggerated by an American emissary in their camp, insisted on an immediate retreat. This mutiny compelled St. Leger to raise the siege, and to retire to Canada, leaving behind him a great part of his artillery and stores.

When General Burgoyne was informed of the arrival of St. Leger before Fort Schuyler, he thought it very expedient to make a forward movement towards Albany, for the purpose of co-operating with that officer, and also with the British troops who were, as he

expected, advancing up the Hudson. The principal objection to this step was, that it would necessarily remove him to a perilous distance from his supplies, which were collected at Fort Edward. With a view, therefore, of procuring a plentiful stock of provisions from a nearer point, he despatched Lieutenant-Col. Baum with 600 men, of whom 100 were Indians, with instructions to seize and convey to his camp a considerable magazine of flour and other supplies which the Americans had established at Bennington, in the district of Vermont. Baum, being erroneously informed that the inhabitants of that part of the country were favourably disposed towards the British, marched forwards without due precaution, till, on approaching Bennington, he found the enemy assembled in force in his front. In this exigency he took possession of an advantageous post, where he entrenched himself, and sent to Burgoyne for succour. Colonel Breyman was detached to reinforce him; but before the arrival of that officer, the fate of his countryman was decided. Baum had been attacked by the American general Starkie, had lost his field-pieces, and had witnessed the death or capture of most of his detachment. On his arrival at the scene of slaughter, Breyman was also vigorously assailed, and compelled to retreat with the loss of his artillery.

The failure of this expedition was most disastrous to the British commander-in-chief, who, being disappointed of receiving the expected supplies from Vermont, was obliged to await the arrival of provisions from Fort George, by which he was delayed from the 15th of August to the 13th of September. This interval of time was well improved by the Americans, who, flushed with their success against Baum and Breyman, pressed on the British with increased numbers and increased confidence. They were also cheered to vigorous exertion by the arrival at this critical moment of General Gates, who was commissioned by Congress to take the command of the Northern army.

After most anxious deliberation, General Burgoyne, having by extraordinary exertions collected provisions for thirty days, crossed the Hudson river on the 13th of September, and advanced to within two miles of General Gates's

camp, which was situated about three miles to the northward of Stillwater. Gates boldly advanced to meet him, and a hard fought battle ensued, which, though not decisive, was very detrimental to the British, as it shook the fidelity of their Indian allies and of the Canadians, who now began to desert in great numbers. The desertion of the Indians was accelerated by the following tragical incident. Miss M'Rea, an American lady, who resided in the vicinity of the British encampment, being engaged to marry Captain Jones, an officer of Burgoyne's army, her lover, being anxious for her safety, as he understood that her attachment to himself and the loyalty of her father had rendered her an object of persecution to her countrymen, engaged some Indians to escort her within the British lines, promising to reward the person who should bring her safe to him, with a barrel of rum. Two of these emissaries having found the destined bride, and communicated to her their commission, she, without hesitation, consented to accompany them to the place of meeting appointed by Captain Jones. But her guides unhappily quarrelling on the way, as to which of them should present her to Mr. Jones and receive the promised recompense, one of them, to terminate the dispute, cleft her skull with his tomahawk, and laid her dead at his feet. This transaction struck the whole British army with horror. General Burgoyne, on hearing of it, indignantly demanded that the murderer should be given up to condign punishment. Prudential considerations, however, prevented his being put to death, as he well deserved. Burgoyne was of opinion, that his pardon upon terms would be more efficacious in preventing further barbarities than his execution: he, therefore, spared his life, upon condition that his countrymen would, from that time forth, abstain from perpetrating any cruelties on the unarmed inhabitants, or on those whom they had vanquished in battle. As the Earl of Harrington at a subsequent period stated in his examination before the House of Commons, he told their interpreter "that he would lose every Indian rather than connive at their enormities." The savages at first seemed willing to comply with his renewed injunctions; but resentment rankled in their breasts at his interference with their habits of warfare, the respect with

which they had once looked up to him was impaired by their knowledge of the difficulties of his situation, and they soon began to quit the camp, loaded with their accumulated plunder. Thus checked in his progress, and deserted by his allies, Burgoyne sent urgent letters to Sir Henry Clinton, who commanded at New York, entreating him to hasten forwards the co-operative forces on which he relied for safety and success, and apprising him that want of provisions would preclude him from remaining in his present position beyond the 12th of October. This renewed delay dispirited his own troops, and swelled the numbers of the hostile army, which received recruits from every quarter. On the 7th of October, Burgoyne in person, accompanied by Generals Phillips, Reidesel, and Fraser, issued from his camp at the head of 1500 men, for the purpose of making a reconnoissance and of foraging. This movement brought on a general engagement, at the close of which the British were driven within their lines, and a part of them was forced. This circumstance compelled Burgoyne to change his position, which manœuvre he performed in a masterly manner, and without sustaining any loss. It was, indeed, from this time, the policy of the American general to avoid a pitched battle, and to reduce his enemy by harassing him and cutting off his retreat, and depriving him of supplies.

The situation of General Burgoyne was most distressing. By extraordinary efforts he had forced his way to within a few miles of Albany, the point of his destination, and had he been seconded by correspondent exertions on the part of the British Southern army, he would have effected the object of his campaign. Sir Henry Clinton seems to have had no precise or early instructions as to co-operating with him. Certain it is, that it was not till the third of October that he moved up the Hudson to his assistance. Sir Henry easily surmounted every obstacle which presented itself on his route. He took Fort Montgomery by assault, and by removing a boom and chain which was stretched from that fortress across the Hudson, he opened the navigation of that river to his flotilla, which, with a fair wind might have speedily made its passage to Half Moon, within sixteen miles of Gates's encampment. But instead of hastening to the relief of their countrymen, the several divisions of

Clinton's army employed themselves in plundering and burning the towns and villages situated on the banks of the river, and in the adjacent country. Amongst those who distinguished themselves in this predatory warfare, General Vaughan rendered himself pre-eminently conspicuous. Having been ordered to advance up the river, by Sir Henry Clinton, he landed at the town of *Æsopus*, and finding it evacuated by the American forces, to whom its defence had been intrusted, though he did not encounter the slightest opposition on the part of the inhabitants, he permitted his troops to plunder it, and afterwards so completely reduced it to ashes, that he did not leave a single house standing. This outrage excited a cry of indignation throughout the United States, and drew from General Gates a letter of severe remonstrance. But the British had much more reason to inculpate Vaughan than the Americans. His delay at *Æsopus* sealed the ruin of the Royal cause. Vaughan was at *Æsopus* on the 13th of October. The tide of flood would have borne him, in four hours, to Albany, where he might have destroyed Gates's stores, and thus have reduced the American general to the necessity of liberating General Burgoyne, who did not surrender till the 16th, and of retreating into New England. Upon such narrow turns of contingencies does the issue of the combinations of warfare frequently depend?

§ 24. *Convention of Saratoga, 13th October, 1777.*

In the mean time, the difficulties in which Burgoyne was involved were hourly accumulating. With a view of cutting off his retreat, Gates posted 1400 men opposite the fords of Saratoga, and 2000 more on the road from that place to Fort Edward. On receiving intelligence of this, Burgoyne retreated to Saratoga, leaving his sick and wounded to the humanity of the enemy. Finding it impossible to force his way over the fords of Saratoga, he attempted to open to his army a passage to Lake George; but the artificers whom he sent under a strong escort to repair the bridges on the road thither were driven away by the American forces. The road to Fort Edward, also, was found by the scouts who had been sent to reconnoitre in that direction, to be strongly guarded. When the 13th day of October arrived, Burgoyne had received no satisfactory

tidings from Clinton's army. He saw himself in a manner surrounded by the enemy, whose cannon-shot flew in every direction through his camp. Though he had for some time past put his troops on short allowance, he found on inspection that he had only three days' rations left in his stores. In these trying circumstances, with heavy heart he summoned a council of war, which came to a unanimous resolution, that in their present position they would be justified in accepting a capitulation on honourable terms. A negotiation was accordingly opened. The first proposal of Gates, namely, that the royal forces should ground their arms in their lines, and surrender prisoners at discretion, was indignantly rejected. After further discussion, a convention was at length agreed upon, the principal conditions of which were, "that the British troops were to march out of their camp with the honours of war and the artillery of the entrenchments to the verge of the river, where the arms and the artillery were to be left; the arms to be piled by word of command from their own officers; and that a free passage was to be granted to the army to Great Britain, upon condition of not serving again in North America during the present contest." Though the first proposals of General Gates were harsh, his subsequent conduct was marked with the characteristics of conciliation and delicacy. When the convention was signed, he withdrew his troops into their lines, to spare the British the pain of piling their arms in the presence of a triumphant enemy. He received the vanquished general with the respect due to his valour and to his military skill; and in an entertainment which he gave at his quarters to the principal British officers, his urbanity and kindness soothed the mortification which could not but embitter their spirits.

By the convention of Saratoga, 5790 men surrendered as prisoners; and besides the muskets piled by these captives, thirty-five brass field-pieces, and a variety of stores were given up to the victors.

§ 25. *Treaty with France, 6th February, 1778.*

Immediately after the surrender of Burgoyne, Gates moved down the Hudson to put a stop to the devastation of the country by Clinton's army, which,

on his approach, retired to New York. He then sent forward a considerable reinforcement to General Washington, who soon after its arrival advanced to White Marsh, within fourteen miles of Philadelphia, where he encamped in a strong position. When General Howe received intelligence of this movement, he marched out of his quarters on the night of the 4th of December; but after various manœuvres, finding that he could gain no advantage over his vigilant adversary, he returned to Philadelphia. Washington then took up his winter-quarters about sixteen miles from the city, at a place called Valley Forge, where his men, ill-supplied as they were with clothing, blankets, and other comforts, cheerfully constructed huts to shelter themselves from the inclemency of the season. By taking up this position he protected the province of Pennsylvania from the incursions of the enemy, and reduced the fruits of Howe's various successes to the occupation of a single additional city—an advantage by no means calculated to console the British for the loss of an able general, and a gallant army.

General Burgoyne had drunk deep of the bitter cup of affliction at Saratoga; but he was doomed to suffer still farther mortification. As the British regarded the Americans as rebels, they did not always in the course of hostilities observe towards them those rules which guide the conduct of nations engaged in war against a foreign enemy. The truth of history, indeed, cannot suppress the melancholy fact, that at the beginning of the contest, and, occasionally, during its progress, the treatment of the American prisoners, on the part of the British authorities, was extremely harsh and severe; and that capitulations made with such portions of the patriotic army, as had by the fortune of war been reduced to a surrender, had not always been observed with courtesy, or even with a due and strict regard to their essential provisions. The Congress, reflecting on these incidents, felt no small apprehension that if the army which had surrendered at Saratoga should be allowed to embark, instead of sailing for England, according to the terms of the capitulation, it would join the forces of General Howe. They therefore studied to find a pretext for breaking the convention. For this purpose they addressed a number of queries to General Gates, as to the man-

ner in which the British had fulfilled the conditions of their surrender, but he assured them that on the part of the British the convention had been exactly observed. The pretext, however, which they could not obtain from their gallant countryman, was supplied by the imprudence of Burgoyne. Among other articles of the convention, it had been stipulated that the captive British officers should, during their stay in America, be accommodated with quarters correspondent to their rank. This stipulation having been but ill observed in the crowded barracks at Cambridge, near Boston, where the surrendered army was quartered, Burgoyne addressed to Gates a letter of remonstrance on this subject, in which he declared that by the treatment which his officers had experienced, "the public faith plighted at Saratoga, had been broken on the part of the United States." Gates, in the discharge of his duty, transmitted this letter to congress, who read it with joy; and affecting to find in the phrase above quoted, a pretext set up by the British general to vindicate a meditated violation of the convention, they resolved that "the embarkation of General Burgoyne and the troops under his command should be suspended till a distinct and explicit ratification of the convention of Saratoga should be properly notified by the court of Great Britain." In vain did Burgoyne remonstrate against this resolution—in vain did he explain his phraseology, and offer to give any conceivable pledge of the sincerity of his intentions to fulfil his engagements. The congress was inexorable—his troops remained as prisoners; and after wasting some time in vain endeavours to procure them redress, he sailed on his parole for England, where he was refused admittance into the presence of his sovereign, denied the justice of a court-martial on his conduct, and subjected to a series of ministerial persecutions—grievous, indeed, to a sensitive mind, but, in effect, more disgraceful to their inflictors than to their victim.

At the time when the American leaders contemplated the declaration of independence, they entertained sanguine hopes that the rivalry which had so long subsisted between France and England would induce the former power to assist them in throwing off the yoke of the mother country; and early in the year 1776, the congress sent Silas Deane as their accredited agent to

Paris, where he was afterwards joined by Dr. Franklin and Arthur Lee, and instructed to solicit the French court to enter into a treaty of alliance and commerce with the United States. The celebrity of Franklin gained him the respect, and his personal qualities obtained him the esteem of individuals of the highest rank in the French capital. But the Comte de Vergennes, then prime minister, acted with caution. He gave the Americans secret aid, and connived at various measures which their agents took to further their cause, by the procuring of arms and military stores, and by annoying the British commerce. The encouragement which Franklin and his associates received varied according to the success or disasters of the American forces. But the capture of Burgoyne's army decided the hesitating councils of France; and on the 6th of February, 1778, his Most Christian Majesty acknowledged and guaranteed the independence of the United States, and entered into a treaty of alliance and commerce with the infant republic of North America. Of this circumstance the French ambassador, on the 13th of March, gave official notice to his Majesty's ministers in a rescript couched in respectful terms, but concluding with an intimation, "that the French king, being determined effectually to protect the lawful commerce of his subjects, and to maintain the dignity of his flag, had, in consequence, taken effectual measures for these purposes, in concert with the United States of America." With whatever urbanity this communication might be made by the ambassador, the British ministers regarded it, as it was intended to be, as a declaration of war; and on the 17th of March they notified its reception to the House of Commons. Their notification was accompanied by a message from the king, expressing the necessity he was under to resent this unprovoked aggression, and his firm reliance on the zealous and affectionate support of his faithful people. To this message the Commons returned a dutiful answer, assuring his Majesty that they would stand by him in asserting the dignity of the crown, and the honour of the nation.

§ 26. *Rejection of Lord North's Overtures, June 1778.*

The intelligence of the surrender of General Burgoyne and his army over-

whelmed Lord North with dismay; and the annunciation of the treaty between the United States and France at once dissipated the feeble hope which he might yet have entertained of subduing the revolted colonies by force of arms. His only remaining resource, then, to prevent that jewel from being for ever torn from the British crown, was to form, by an act of parliament, a kind of federal union with the North American provinces, which, whilst it reserved their allegiance to the British sovereign, should virtually concede to them the entire management of their internal concerns. With this view, on the 17th of February, 1778, he introduced into the House of Commons two conciliatory bills, by which he proposed to concede to the colonies every thing which they had demanded before their declaration of independence, viz., exemption from internal parliamentary taxation, the appointment of their own governors and superior magistrates; and moreover, an exemption from the keeping up of any military force in any of the colonies without the consent of their respective assemblies. It was provided that commissioners should be appointed by the crown, to negotiate with the congress on the basis of these propositions. The speech in which his lordship introduced these bills into the House of Commons was marked by a curious mixture of humiliation of tone, and affected confidence and courage. The coercive acts, which under his influence had been passed into laws, were, said he, such as appeared to be necessary at the time, though in the event they had produced effects which he had never intended. As soon as he found that they had failed in their object, before a sword was drawn he brought forward a conciliatory proposition (meaning the act for admitting to the king's peace any individual colonies which might make the requisite concessions); but that, in consequence of the proposition having been made the subject of debate in parliament, it went damned to America, so that the congress conceived, or took occasion to represent it, as a scheme for sowing divisions, and introducing taxation among them in a worse mode than the former. Then, making a fatal admission of the trifling nature of the object which had produced so much ill blood between the colonies and the mother-country, he confessed that his idea never had been to draw any con-

siderable revenue from America; that his wish was, that the colonists should contribute in a very low proportion to the expenses of Great Britain. He was very well aware that American taxation could never produce a beneficial revenue, and that many taxes could not be laid or collected in the colonies. The Stamp Act, however, seemed to be judiciously chosen as a fiscal experiment, as it interested every man who had any dealing or property to defend or recover, in the collection of the tax and the execution of the statute; but this experiment had failed in consequence of the obstinacy of the Americans in transacting all business without using the stamps prescribed by law. The act enabling the East India Company to send tea to America on their own account, and with the drawback of the whole duty in England, was a relief instead of an oppression; but this measure had been defeated by contraband traders, who had too successfully misrepresented it as an invasion of colonial rights. Having thus detailed the difficulties with which ministers had been called to struggle in legislating for so perverse a generation as the Americans had proved themselves to be, his lordship then proceeded to open his plan, the outline of which has been given above; and, in descanting on the ample powers with which he proposed to invest the commissioners, and foreseeing that the Americans might refuse to treat with these agents of the Sovereign without a previous acknowledgment of their independence, he humbled himself so far as to say that he would not insist on their renouncing their independence till the treaty should receive its final ratification from the King and parliament of Great Britain; and then, in a manner confessing that, instead of a sovereign assembly the parliament was reduced to the condition of a supplicant to the mutinous colonies, he proposed that the commissioners should be instructed to negotiate with them for some reasonable and moderate contribution towards the common defence of the empire when reunited; but, to take away all pretence for not terminating this unhappy difference, the contribution was not to be insisted on as a *sine qua non* of the treaty; but that if the Americans should refuse so reasonable and equitable a proposition, they were not to look for support from that part of the empire to whose expense they had re-

fused to contribute. Weakly attempting to obviate the imputation that these pacific measures were the fruit of fear, occasioned by the recent successes of the insurgents, he called the House to witness that he had declared for conciliation at the beginning of the session, when he thought that the victories of General Howe had been more decisive, and when he knew nothing of the misfortunes of Burgoyne. He acknowledged that the events of the war had turned out very differently from his expectation, but maintained that for the disappointment of the hopes of the public no blame was imputable to himself; that he had promised that a great army should be sent out, and a great army, an army of upwards of 60,000 men, had been sent out; that he had promised that a great fleet should be employed, and a great fleet had been employed; that he had engaged that this army and this fleet should be provided with every kind of supply, and that they had been supplied most amply and liberally, and might be so for years to come; and that if the House was deceived, they had deceived themselves. The prime minister, having thus by implication attributed the failure of his plans to the commanders of the British forces employed to conduct the war, concluded his speech by a boastful assertion, that the strength of the nation was still entire; that its resources were ample, and that it was able, if it were necessary, to carry on the war much longer. The disavowal on the part of Lord North of any intention to raise a revenue in America, seems to have given no little umbrage to the country gentlemen, whose organ, Mr. Baldwin, exclaimed, that he had been deceived by the minister; that three years ago he had asked him whether a revenue was meant by the measures which he then proposed to enforce; that he was answered it was, and that upon that ground alone he had hitherto voted with the ministry. The regular opposition were, upon the whole, more moderate than the landed aristocracy. Mr. Fox approved of Lord North's propositions, which, he reminded him, were in substance the same as those which were in vain brought forward by Mr. Burke about three years before. He did not, however, restrain himself from making some severe animadversions on the policy of the Premier, all whose arguments, he asserted, might be collected

into one point, his excuses all reduced to one apology—his total ignorance. "He hoped," exclaimed the indignant orator, "he hoped, and was disappointed; he expected a great deal, and found little to answer his expectations. He thought the Americans would have submitted to his laws, and they resisted them. He thought they would have submitted to his armies, and they were beaten by inferior numbers. He made conciliatory propositions, and he thought they would succeed, but they were rejected. He appointed commissioners to make peace, and he thought they had powers; but he found they could not make peace, and nobody believed they had any powers. He had said many such things as he had thought fit in his conciliatory propositions; he thought it a proper method of quieting the Americans upon the affair of taxation. If any person should give himself the trouble of reading that proposition, he would find not one word of it correspondent to the representation made of it by its framer. The short account of it was, that the noble lord in the proposition assured the colonies, that when Parliament had taxed them as much as they thought proper, they would tax them no more." In conclusion, however, Mr. Fox said "that he would vote for the present proposition, because it was much more clear and satisfactory, for necessity had caused him to speak plain." The conciliatory bills, in their passage through the two Houses, excited many animated debates, in the course of which Lord North was exposed to much animadversion, which he seems to have borne with great equanimity. At length, all points relative to them being settled by Parliament, they were sanctioned by the Royal assent. But the urgency of danger would not allow ministers to wait till they were passed into a law; and the same statesmen who had a little time before treated the petitions of the colonies with scorn and contempt, hastened to communicate their propositions, whilst yet in the shape of bills, to the congress, in hopes that the adoption on their part of a milder policy might be met with a similar spirit of conciliation on the other side of the Atlantic. These documents were despatched in such haste, that they arrived at New York in time to be presented by Sir William Howe to the congress, before that assembly had received intelligence of the signature of their treaty of alliance with

France. The American legislators did not, however, hesitate as to the line of conduct which in these circumstances it became them to pursue. They peremptorily rejected the proposals of Lord North as insidious and unsatisfactory. During the progress of the conciliatory bills, and after their passing, frequent and animated debates took place in both houses of parliament, relative to the foreign and domestic policy of the country. In the House of Lords, the Duke of Richmond took the lead in discussing these subjects, and on the 7th of April he made an impressive speech on the state of the nation, in which he maintained, that the salvation of the country required the withdrawing of the British troops from North America, and even not obscurely hinted that, for the acquisition of peace, it would be politic to agree to the independence of the colonies. As his grace's sentiments on the latter point were no secret, and as it was to be expected that he would propound them on this occasion, Lord Chatham, now labouring under the weight of seventy years, rendered more heavy by acute bodily suffering, regardless of his infirmities, attended in his place for the purpose of raising his voice against the duke's proposition. "My Lords," exclaimed the venerable orator, "I rejoice that the grave has not closed upon me, and that I am still alive to lift up my voice against the dismemberment of this ancient and most noble monarchy." He then proceeded, in the most energetic terms, to urge his auditors to the most vigorous efforts against their new enemy, the house of Bourbon; and concluded by calling upon them, if they must fall, to fall like men. The Duke of Richmond having replied to this speech, Lord Chatham attempted to rise for the purpose of rebutting his grace's arguments, and of proposing his own plan for putting an end to the contest with America, which is understood to have been the establishment with the colonies, upon the most liberal terms, of a kind of federal union under one common monarch. But the powers of nature within him were exhausted: he fainted under the effort which he made to give utterance to his sentiments, and being conveyed to his favourite seat of Hayes, in Kent, he expired on the 11th of May. This firmness on the part of congress augured ill for the success of the British commissioners, Lord Carlisle, Mr. Eden, and Governor Johnstone, who arrived

at New York on the 9th of June, and without loss of time attempted to open a negotiation with the congress. Their overtures were officially answered by President Laurens in a letter, by which he apprized them that the American government were determined to maintain their independence; but were willing to treat for peace with his Britannic Majesty on condition of his withdrawing his fleets and armies from their country. Thus foiled in their attempt at public negotiation, the commissioners had recourse to private intrigue. Governor Johnstone, from his long residence in America, was personally acquainted with many of the leading members of congress, to some of whom he addressed letters, vaguely intimating the great rewards and honours which awaited those who would lend their aid in putting an end to the present troubles; and in one instance, he privately offered to an individual, for his services on this behalf, the sum of 10,000*l.* sterling, and any place in the colonies in his majesty's gift. These clandestine overtures of the governor were uniformly rejected with contempt, and the congress having been apprized of them, declared them direct attempts at corruption; and resolved that it was incompatible with their honour to hold any correspondence or intercourse with him. This resolution, which was adhered to, notwithstanding the explanations and denials of Johnstone, and the disavowal of his proceedings by his brother commissioners, drew forth from these pacificators an angry manifesto, in which they virtually threatened the Union with a war of devastation, declaring that "if the British colonies were to become an accession to France, the laws of self-preservation would direct Great Britain to render the accession of as little avail as possible to the enemy." Whilst congress gave notice that the bearers of the copies of this manifesto were not entitled to the protection of a flag, they shewed how little they dreaded the impression which it might make, by giving it an extensive circulation in their newspapers.

§ 27. *Arrival of the French Fleet.*

General Howe spent the spring of the year 1778 nearly in a state of inaction, confining his operations to the sending out of foraging and predatory parties, which did some mischief to the country,

but little service to the royal cause. From this lethargy he was roused by the receipt of orders from the British ministry, to evacuate Philadelphia without delay. These orders were sent under the apprehension, that if a French fleet should block up his squadron in the Delaware, whilst Washington inclosed him on the land side, he would share the fate of Burgoyne. On the 18th of June, therefore, he quitted the Pennsylvanian capital, and crossed into New Jersey, whither he was speedily followed by Washington, who, keeping a strict watch on his movements, had taken measures to harass him on his march, which was encumbered with baggage. The American commander, on his arrival at Princeton, hearing that General Clinton, with a large division of the British forces, had quitted the direct road to Staten Island, the place of rendezvous appointed for General Howe's army, and was marching for Sandy Hook, sent a detachment in pursuit of him, and followed with his whole army to support it; and as Clinton made preparations to meet the meditated attack, he sent forward reinforcements to keep the British in check. These reinforcements were commanded by General Lee, whom Washington, on his advancing in person, met in full retreat. After a short and angry parley, Lee again advanced, and was driven back; but Clinton's forces next encountering the main body of the American army, were repulsed in their turn, and taking advantage of the night, the approach of which in all probability saved them from utter discomfiture, they withdrew to Sandy Hook, leaving behind them such of their wounded as could not with safety be removed. For his conduct on this occasion, Lee was brought to a court-martial, and sentenced to be suspended from any command in the armies of the United States for the term of one year. After this engagement Washington marched to White Plains, which are situated a few miles to the north-eastward of New York Island. Here he continued unmolested by the neighbouring enemy, from the beginning of July, till the latter end of autumn, when he retired to take up his winter quarters in huts which he had caused to be constructed at Middlebrook in Jersey.

According to the prognostic of the British ministry, the Count d'Estaing, with a fleet of twelve ships of the line and

three frigates, arrived off the mouth of the Delaware in the month of July; but found to his mortification, that eleven days before that period Lord Howe had withdrawn from that river to the harbour of New York. D'Estaing immediately sailed for Sandy Hook; but after continuing at anchor there eleven days, during which time he captured about twenty English merchantmen, finding that he could not work his line-of-battle ships over the bar, by the advice of General Washington he sailed for Newport, with a view of co-operating with the Americans in driving the British from Rhode Island, of which province they had been in possession for upwards of a year and a half. This project, however, completely failed. Lord Howe appearing with his fleet off Newport, the French admiral came out of the harbour to give him battle; but, before the hostile armaments could encounter, a violent storm arose, which damaged both fleets so much, that the British were compelled to return to New York, whilst D'Estaing withdrew to refit in Boston harbour. His retirement subjected the American army, which had entered Rhode Island under General Sullivan, to great peril; but by the skill of its commander, it was withdrawn from the province with little loss. Towards the latter end of this year the British arms were signally successful in Georgia, the capital of which province was taken by Lieutenant-Colonel Campbell, who conducted himself with such prudence, and manifested so conciliatory a spirit, that he made no small advances in reconciling the Georgians to their ancient government.

The arrival of the French fleet had filled the Americans with sanguine expectations that they should now be able to put an end to the war by some decisive stroke; and in proportion to the elevation of their hopes was the bitterness of their mortification, that the only result of the co-operation of their ally was the recovery of Philadelphia. On the other hand, the British ministry were grievously disappointed on learning that the issue of this campaign, as far as regarded their main army, was the exchange by General Howe of his narrow quarters in the Pennsylvanian capital for the not much more extended ones of New York island. Hitherto they seem to have carried on the war under the idea that the majority of the inhabitants of the colonies were favourably disposed towards the royal government,

and were only restrained from manifesting their loyalty by a faction whom it would be easy with their assistance to subdue, but from this period they appear to have conducted their hostilities in a spirit of desperation and revenge.

§ 28. Campaign of 1779.

With a view of alarming the insurgent colonies by subjecting them to the unmitigated horrors of war, Sir Henry Clinton, on the 10th of May, 1779, sent an expedition into Virginia; under the command of Sir George Collyer and General Matthews, who, landing at Portsmouth, proceeded to Suffolk, which town they reduced to ashes, and after burning and capturing upwards of 130 vessels of different sizes, and devastating the country in their line of march, sailed back loaded with booty to New York. About five weeks after their return, Governor Tryon, having received orders to attack the coast of Connecticut, landed at East Haven, which he devoted to the flames, in violation of his promise of protection to all the inhabitants who should remain in their homes. Thence he proceeded to Fairfield and Norwalk, which were given up to plunder, and then destroyed. He effected this mischief with little loss in the space of ten days, at the end of which time he returned to the British head-quarters to make a report of his proceedings to the commander-in-chief. Whilst this mode of warfare was carrying on, Washington could spare very few men for the defence of the invaded districts. His attention was engrossed by the main army of the British, to keep which in check he posted his forces at West Point, and on the opposite bank of the Hudson, pushing his patrols to the vicinity of his adversary's lines. As the British occupied with a strong garrison Stoney Point, some miles to the south of his position, he, on the 15th of July, despatched General Wayne with a competent force to dislodge them from that important post. This attempt was crowned with success. Wayne took the British works by storm, and brought off 543 prisoners, fifteen pieces of cannon, and a considerable quantity of military stores. Washington did not, however, think it prudent for the present to attempt to establish himself at Stoney Point, and it was speedily re-occupied by the British. Another instance of the enterprising boldness of the Americans soon after

occurred in the surprise of the British garrison at Powles-Hook, opposite to New York, which was attacked on the 19th of July, by Major Lee, who stormed the works and took 160 prisoners, whom he brought safely to the American lines. The joy which the Americans felt at the success of these daring enterprises was, however, damped by the failure of an expedition undertaken by the state of Massachusetts to dispossess the British of a fort which they had erected at Penobscot in the district of Maine. They here lost the whole of their flotilla, which was destroyed or captured by Sir George Collyer, whilst their land forces were compelled to seek for safety by retreating through the woods.

Spain, having now declared war against Great Britain, it was hoped by sanguine politicians, favourable to the cause of the new republic, that this additional pressure of foreign foes would compel the British ministry to withdraw their forces from North America. But the energies of the mother-country were roused in proportion to the increase of her peril. Her fleets maintained their wonted sovereignty over the ocean, and her monarch was determined to strain every nerve to reduce his revolted colonies to obedience; and at this period the ease with which the reduction of Georgia had been effected, and the advantages which it might afford in making an attack upon the rest of the southern states, induced his ministers to renew their efforts in that quarter. The back settlements, as well as those of the Carolinas, abounded with enterprising men of desperate fortunes, as also with tories, who had been compelled, by the persecution which they sustained from the more ardent republicans, to withdraw into these wilds from the more settled part of the country. These adventurers and loyalists having joined the royal forces under the command of Major-general Prescott, which had also received reinforcements from Florida, that officer found himself in a condition to commence active operations. His preparations filled the neighbouring states with alarm. The American regular troops had, with few exceptions, been sent from the Carolinas to reinforce the army of General Washington; and the only reliance of the republicans in this portion of the Union rested on the militia, the command of which was delegated by congress to General Lincoln. On inspecting his forces, Lincoln

found them ill equipped and very deficient in discipline. In these circumstances the activity of the enemy did not allow him any time to train them. Soon after his arrival at head-quarters, a division of the royal army advanced under the command of Major Gardiner to take possession of Port Royal, in South Carolina, but was driven back with loss by General Moultrie. This repulse for a while suspended the enterprise of the British, who took post at Augusta and Ebenezer, situated on the Savannah River, which forms the boundary between Georgia and South Carolina. Here they waited in expectation of being joined by a body of Tories, who had been collected in the upper parts of the latter province. But these obnoxious allies, giving way to long-smothered resentment, were guilty of such atrocities on their march, that the country rose upon them, and they fell an easy prey to a detachment commanded by Colonel Pickens, sent to intercept them at Kettle Creek. Five of the prisoners taken on this occasion were tried and executed for bearing arms against the government of the United States. This proceeding led to acts of retaliation on the part of the Tories and the king's troops, which for a long time gave in the southern states additional horror to the miseries of war. Emboldened by his success, Lincoln sent an expedition into Georgia, with a view of repressing the incursions of the enemy, but his forces were surprised by General Prevost, from whom they sustained so signal a defeat, that, of 1500 men, of which the expedition consisted, only 450 returned to his camp. In this emergency, the legislative body of South Carolina invested their governor, Mr. John Rutledge, and his council, with an almost absolute authority, by virtue of which a considerable force of militia was embodied and stationed in the centre of the state, to act as necessity might require. Putting himself at the head of these new levies, Lincoln again determined to carry the war into the enemy's quarters; and, crossing the Savannah near Augusta, marched into Georgia, and proceeded towards the capital of that province. Prevost instantly took advantage of this movement to invade South Carolina, at the head of 2400 men; and, driving Moultrie before him, pushed forward towards Charleston. At this time his supe-

riority appeared to be so decisive, that Moultrie's troops began to desert in great numbers, and many of the inhabitants, with real or affected zeal, embraced the royal cause. On his appearance before Charleston, the garrison of that place, which consisted of 3300 men, sent commissioners to propose a neutrality on their part during the remainder of the war. This proposal he rejected, and made preparations to attack the town, which was respectably fortified. But, whilst he was wasting time in negotiations, Lincoln was hastening from Georgia to the relief of the place; and on the near approach of the American army, fearing to be exposed to two fires, he withdrew his forces across Ashley River, and encamped on some small islands bordering on the sea-coast. Here he was attacked by Lincoln, who was, however, repulsed with loss, in consequence of the failure of a part of his combinations. Notwithstanding this success, the British general did not think it advisable to maintain his present position, but retreated to Port Royal, and thence to Savannah.

The Americans retired to Sheldon, in the vicinity of Beaufort, which is situated at about an equal distance from Charleston and Savannah. Here they remained in a state of tranquillity till the beginning of September, when they were roused from their inaction by the appearance off the coast of the fleet of D'Estaing, who had proceeded towards the close of the preceding year from Boston to the West Indies, whence, after capturing St. Vincent's and Granada, he had returned to the assistance of the allies of his sovereign. At the sight of this armament, which consisted of 20 sail of the line, and 13 frigates, the republicans exulted in the sanguine hope of capturing their enemies, or of expelling them from their country. The militia mustered with alacrity in considerable force, and marched under the command of General Lincoln to the vicinity of Savannah. Before their arrival, D'Estaing had summoned the town, and had granted to General Prevost a suspension of hostilities for 24 hours, for the purpose of settling the terms of a capitulation. But during that interval the British commander received a reinforcement of several hundred men, who had forced their way from Beaufort; encouraged by

which seasonable aid, he determined to hold out to the last extremity. The allied forces, therefore, commenced the siege of the place in form; but D'Estaing, finding that much time would be consumed in regular approaches, and dreading the hurricanes which prevail on the southern coast of America at that season, resolved on an assault. In conjunction with Lincoln, he led his troops to the attack with great gallantry; but the steadiness of the British won the day; and, after having received two slight wounds, he was driven back with the loss of 637 of his countrymen, and 200 of the Americans killed and wounded. At the close of the engagement D'Estaing retired to his ships, and departed from the coast, whilst Lincoln crossed the Savannah River, and returned, with his forces daily diminishing by desertion, to South Carolina. In proportion to the joy of the inhabitants of the southern states at the arrival of the French fleet, was their mortification at the failure of their joint endeavours to rid their provinces of an active enemy. The brave were dispirited by defeat, and the sanguine began to despair of the fortunes of their country. Those, however, who thought more deeply, took comfort from the consideration that the enemy had effected little in the course of the campaign, except the overrunning and plundering of an extensive tract of territory, and that they had been compelled to terminate their excursions by again concentrating themselves in Savannah.

§ 29. *Siege and Capitulation of Charleston, 12th May, 1780.*

The events which had occurred in South Carolina having persuaded Sir Henry Clinton that the cause of independence was less firmly supported there than in the northern states, he determined to make that province the principal theatre of the war during the ensuing campaign. Leaving, therefore, the command of the royal army in New York to General Knyphausen, on the 26th of December, 1779, he sailed from that city with a considerable force, and, after a stormy passage, on the 11th of the ensuing month he arrived at Tybee, in Georgia, at the mouth of Savannah River. Hence he proceeded to Ashley River, and encamped opposite to Charleston. On his arrival, the assembly of

the state of South Carolina broke up its sitting, after having once more delegated a dictatorial authority to Governor Rutledge, who immediately issued his orders for the assembling of the militia. These commands were ill obeyed. The disasters of the last campaign had almost extinguished the flame of patriotism; and each man seemed to look to his neighbours for those exertions which might have justly been expected from himself. On reconnoitring the works of Charleston, however, Sir Henry Clinton did not think it expedient to attack them till he had received reinforcements from New York and Savannah, on the arrival of which he opened the siege in form. Charleston is situated on a tongue of land, bounded on the west by Ashley, and on the east by Cooper's Rivers. The approach to Ashley River was defended by Fort Moultrie, erected on Sullivan's Island; and the passage up Cooper's River was impeded by a number of vessels, connected by cables and chains, and sunk in the channel opposite to the town. On the land side the place was defended by a citadel and strong lines, extending from one of the above-mentioned rivers to the other. Before these lines Clinton broke ground on the 29th of March, and on the 10th of April he had completed his first parallel. On the preceding day, Admiral Arbuthnot, who commanded the British fleet, had passed Fort Moultrie with little loss, and had anchored near the town. About the 20th of April the British commander received a second reinforcement of 3000 men; and the place was soon completely invested by land and sea—his third parallel being advanced to the very edge of the American works. General Lincoln, who commanded in Charleston, would not have shut himself up in the town, had he not confidently expected relief from the militia, who had been called out by Governor Rutledge, and by whose assistance he imagined that he could, if reduced to extremity, have effected a retreat by crossing Cooper's River. But the few who, in this hour of difficulty, advanced to his aid, were cut off or kept in check; and the river was possessed by the enemy. In these distressful circumstances, after sustaining a bombardment which set the town on fire in different places, on the 12th of May he surrendered on a capitulation, the principal terms of which were, that "the

militia were to be permitted to return to their respective homes, as prisoners on parole, and while they adhered to their parole were not to be molested in person or property." The same conditions were also imposed on all the inhabitants of the town, civil as well as military.

Sir Henry Clinton now addressed himself to the important work of re-establishing the royal authority in the province; as a preliminary step to which, on the 1st of June, he issued a proclamation, offering to the inhabitants at large, on condition of their submission, pardon for their past offences, a reinstatement in their rights, and, what was of the most weighty importance, exemption from taxation, except from their own legislature. This proclamation was followed up by the posting of garrisons in different parts of the country, to protect the loyal and to awe the disaffected, and by the march of 2000 men towards North Carolina, on whose advance the American forces, who had tardily marched from that province to the relief of Charleston, retreated with loss. Thus crowned with success, Clinton, early in June, embarked, with the principal part of his forces, for New York, having delegated the completion of the subjugation of South Carolina to Lord Cornwallis, to whom he apportioned, for that purpose, an army of 4000 men.

§ 30. *Defeat of Gates's Army, by Lord Cornwallis, 15th August, 1780.*

When Lord Cornwallis took the command in South Carolina, the insurgents had no army in the field within 400 miles of that province, and the great body of the inhabitants had submitted either as prisoners or as subjects; and had they been suffered to remain in this state of quiet neutrality, they would have been happy to abide in peace the issue of the contest in the northern states. But his Lordship's instructions did not permit him to be contented with this passive obedience, and he proceeded to take measures to compel the South Carolinians to take up arms against their countrymen. With this view, he issued a proclamation, absolving from their parole all the inhabitants who had bound themselves by that obligation, and restoring them "to all the rights and duties belonging to citizens." What was meant by the ominous word "duties" was explained by another part of the proclamation, whereby it was declared "that it was proper for all persons to

take an active part in settling and securing his majesty's government," and that "whoever should neglect so to do should be treated as rebels." The Carolinians were indignant at this violation of the terms of their submission. Many of them resumed their arms; and though more, under the impression of fear, enrolled themselves as subjects, they brought to the royal cause a hollow allegiance which could not be trusted in the day of trial. A considerable number quitted the province, and hastened to join the army which congress was raising for the purpose of wresting it out of the hands of the enemy. *

In organizing this force, congress had to struggle with the greatest difficulties. Their treasury was exhausted, and they were at this time occupied in making an equitable adjustment as to their paper money, on the strength of which they had undertaken the war, and which was now depreciated to the amount of forty for one—that is, one silver dollar was worth forty American paper dollars. Whilst their currency was in this state they were perpetually embarrassed in their purchases of arms, clothing, and stores; and when they had raised the men for the southern army, some time elapsed before they could procure the necessary funds to put them in motion. These difficulties being at length overcome, the Maryland and Delaware troops were sent forward, and began their march in high spirits on learning that the expedition, of which they formed a part, was to be commanded by General Gates. The hero of Saratoga, on joining the army in North Carolina, was advised to proceed to the southward by a circuitous route, where he would find plenty of provisions; but, conceiving it to be his duty to hasten with all speed to the scene of action, he preferred the straightforward road to Camden, which led through a desert pine barren. In traversing this dreary tract of country, his forces were worn out with fatigue and extenuated with hunger. The few cattle which his commissariat had provided having been consumed, his only resource for meat was the lean beasts which were accidentally picked up in the woods. Meal and grain were also very scarce; and as substitutes for bread, the soldiers were obliged to have recourse to the green corn and to the fruits which they met with on their line of march. The consequence of this unwonted diet was, that the army was

thinned by dysentery and other diseases usually caused by the heat of the weather and by unwholesome food. The soldiers at first bore these hardships with impatience, and symptoms of dissatisfaction and even of mutiny began to appear amongst them. But by the conciliatory exertions of the officers, who shared in all the privations of the common men, the spirit of murmuring was repressed, and the troops pursued their weary way with patience and even with cheerfulness. On their arrival at a place called Deep Creek, their distresses were alleviated by a supply of good beef accompanied by the distribution of half a pound of Indian corn meal to each man. Invigorated by this welcome refreshment, they proceeded to the cross-roads, where they were joined by a respectable body of militia under the command of General Caswell. Though Gates was aware that another body of militia were hastening to his assistance from the state of Virginia, he was prevented from waiting for their arrival by want of provisions, and, after staying for one day only at the cross-roads, finding that the enemy intended to dispute his passage by Lynch's Creek, he marched to the right towards Clermont, where the British had established a defensible post. On his approach to the latter place, however, Lord Rawdon, who commanded the advance of the British, concentrated all his forces at Camden, whilst Gates mustered the whole of his army at Clermont, which is distant from Camden about thirteen miles. These events occurred on the 13th of August, and on the next day the American troops were reinforced by a body of 700 of the Virginia militia. At the same time Gates received an express from Colonel Sumpter, who reported to him that he had been joined by a number of the South Carolina militia, at his encampment on the west side of the Wateree, and that an escort of clothing, ammunition, and other stores, was on its way from Charleston to Camden, and must of necessity, on its way to its destination, cross the Wateree at a ferry about a mile from that place. On receiving this intelligence, Gates sent forward a detachment of the Maryland line, consisting of 100 regular infantry and a company of artillery, with two brass field-pieces, and 300 North Carolina militia, all under the command of Lieutenant-Colonel Woodford, who was instructed to join General Sumpter, and assist him in intercepting the convoy.

At the same time General Gates made preparations for advancing still nearer Camden, in the expectation that if Lord Rawdon did not abandon that post as he had done that of Clermont, his supplies would be cut off by the bodies of militia which were expected to pour forth from the upper counties, and he would thus be compelled to a surrender. On reaching the frontier of South Carolina, Gates had issued a proclamation, inviting the inhabitants to join his standard, and offering an amnesty to such of them as, under the pressure of circumstances, had promised allegiance to the British Government. Though this proclamation had not been without effect, it had not called forth the numbers upon which the American general had been led to calculate; and, after the departure of Lieutenant-Colonel Woodford's detachment, the abstract of the field-returns submitted to him by his deputy adjutant-general indicated no more than between 4000 or 5000 men as constituting his disposable force. Gates, disappointed as he was by the scantiness of these returns, determined to persevere in his plan of offensive operations, and marched about ten at night on the 15th of August to within half a mile of Sander's Creek, about half-way between his encampment and Camden. Lord Cornwallis, who the day before had repaired to his headquarters at Camden, and had taken the command of the British army, was also resolved, though his forces amounted only to 2000 men, of whom 1700 were infantry and 300 cavalry, to attack the enemy in their camp, and advancing for that purpose, at half-past two in the morning, encountered their advanced parties near Sander's Creek. Here some firing took place with various success; but on the whole the British had the advantage in this night rencontre. Early on the ensuing morning both armies prepared for battle. On the side of the Americans, the second Maryland brigade, under the command of General Gist, occupied the right, which was flanked by a morass; the Virginia militia and the North Carolina infantry, also covered by some boggy ground, were posted on the left, whilst General Caswell, with the North Carolina division and the artillery, appeared in the centre. A *corps de reserve*, under the orders of General Smallwood, was posted about three hundred yards in the rear of the American line. In arranging the British forces Lord Cornwallis delegated

the command of the right to Lieutenant-Colonel Webster, who had at his disposal the 23d and the 33d regiments of foot. The left was guarded by some Irish volunteers, the infantry of the legion, and part of Lieutenant-Colonel Hamilton's North Carolina regiment, under the command of Lord Rawdon. The cavalry of the legion was stationed in the rear, where also the 71st regiment was stationed as a reserve. The respective armies being thus disposed, the action began by the advance of 200 of the British in front of the American artillery, which received them with a steady fire. Gates then commanded the Virginia militia to advance under the command of Colonel Stevens, who cheerfully obeyed the orders of his commander-in-chief, and, when he had led his men within firing distance, urged them to charge the enemy with their bayonets. This portion of the American army did not, however, emulate the gallantry of their leader. Lord Cornwallis, observing their movement, gave orders to Lieutenant-Colonel Webster to attack them. The British infantry obeyed his lordship's commands with a loud cheer. The American militia, intimidated by this indication of determined daring, were panic-struck, and the Virginians and the Carolinians threw down their arms and hastened from the field. The right wing and the *corps de reserve*, however, maintained their position, and even gained ground upon the enemy; but Lord Cornwallis, taking advantage of a favourable moment, charged them with his cavalry, and put them completely to the rout. The victors captured the whole of the baggage and artillery of the Americans, who were pursued by the British cavalry for the space of twenty miles; and so complete was their discomfiture, that on the second day after the engagement Gates could only muster 150 of his fugitive soldiers at Charleston, a town in the south of North Carolina, from whence he retreated still farther north to Salisbury, and thence to Hillsborough. The sickness of the season prevented Lord Cornwallis from pursuing the broken remains of the enemy's army; but he employed the leisure now afforded him in inflicting vengeance on such of the inhabitants of South Carolina as had been induced, by the presence of Gates's army, to declare in his favour. The militia-men who had joined the republican standard, and had fallen into his

hands as prisoners, he doomed to the gallows. The property of the fugitives, and of the declared friends of independence, he confiscated. These acts, though severe, were perhaps justifiable by the strictness of the law. But neither in law nor in honour could his lordship justify the seizure of a number of the principal citizens of Charleston, and most of the military officers residing there under the faith of the late capitulation, and sending them to St. Augustine.

Reduced to desperation by these injudicious severities, the bold and active among the disaffected formed themselves into independent bands, under different chieftains, amongst whom Marion and Sumpter were distinguished by their spirit of enterprise. These harassed the scattered parties of the British, several of which they cut off; and by their movements the loyalists to the north of the Carolinas were kept in check. Eight of these chieftains having united their forces, attacked Major Ferguson, who had been sent to the confines of the two provinces to assemble the friends of the British government, and killed or wounded 250 of his new levies, and took 800 prisoners, Ferguson himself being amongst the slain. This success was followed by important results: Lord Cornwallis had marched into North Carolina, in the direction of Salisbury; but when he heard of the defeat and death of Ferguson, he retreated to Winnsborough in the southern province, being severely harassed in his retrograde movement by the militia and the inhabitants; and when he retired into winter-quarters Sumpter still kept the field.

In the mean time General Gates had collected another army, with which he advanced to Charlotte. Here he received intelligence that congress had resolved to supersede him and to submit his conduct to a court of inquiry. Mortified as he was by the ingratitude of his country, on the notification of this resolve of the supreme power he dutifully resigned his command. But on his way home from Carolina, his feelings were soothed by an address from the legislature of Virginia, assuring him that "the remembrance of his former glorious services could not be obliterated by any reverse of fortune."

§ 31. *Arrival of the French Auxiliaries under Rochambeau, 10th July, 1780.*

Whilst these events were occurring in the southern states, General Wash-

ington was obliged to confine himself to the irksome and inglorious task of watching, from his encampment at Morristown, the motions of the British on New York Island, and of restraining their incursions into the adjacent country. Though the army opposed to him was lessened by the detachment which Sir Henry Clinton led into South Carolina, his own forces were proportionably weakened by the reinforcements which it was necessary for him to send to the American army in the same quarter; and never did distress press more heavily upon him. The depreciation of the currency was at that time so great, that four months pay of a private would not purchase a single bushel of wheat. His camp was sometimes destitute of meat, and sometimes of bread. As each state provided for its own quota of troops, no uniformity could be established in the distribution of provisions. This circumstance aggravated the general discontent, and a spirit of mutiny began to display itself in two of the Connecticut regiments, which were with difficulty restrained from forcing their way home at the point of the bayonet. Of these discontents the enemy endeavoured to take advantage, by circulating in the American camp proclamations offering the most tempting gratifications to such of the continental troops as should desert the republican colours and embrace the royal cause. But these offers were unavailing; mutinous as they were, the malcontents abhorred the thought of joining the enemies of their country; and on the seasonable arrival of a fresh supply of provisions, they cheerfully returned to their duty. Soon after this, when General Knyphausen, who commanded the British forces in the absence of Sir Henry Clinton, made an irruption into Jersey, on the 16th of June, the whole American army marched out to oppose him; and though he was reinforced by Sir Henry Clinton, who during this expedition had arrived from Charleston, he was compelled to measure back his steps. Both the advance and retreat of the German were marked by the devastation committed by his troops, who burnt the town of Springfield and most of the houses on their line of march.

Alarmed by the representations made by General Washington, of the destitute condition of his army, congress sent three members of their body with instructions to inquire into the condition of their forces, and with authority to re-

form abuses. These gentlemen fully verified the statements of the commander-in-chief. No sooner was this fact known in the city of Philadelphia, than a subscription was set on foot for the relief of the suffering soldiers, which soon amounted to 300,000 dollars. This sum was entrusted to the discretion of a well chosen committee, who appropriated it to the purchase of provisions for the troops. The three commissioners also applied themselves diligently to the task of recruiting and reorganizing the army. They prescribed to each state the quota of forces which it was to contribute towards the raising of 35,000 men, their deficiency in regulars being to be supplied by draughts from their respective militia. The states of New England, Pennsylvania, and Virginia, promptly listened to the call of their country, and made extraordinary efforts to furnish their several quotas of recruits. The other members of the union exerted themselves to the best of their ability; and though the general result of these exertions did not produce the number of troops which was deemed requisite for the public service, more could not, in such circumstances, have been well expected.

The congress were the more earnest in their wishes to put their army on a respectable footing, as they were in expectation of the arrival of a body of auxiliary forces from France. This welcome aid appeared off Rhode Island on the 10th of July, 1780, on which day Monsieur Ternay sailed into the harbour of Newport with a squadron of seven sail of the line, five frigates, and five schooners, conveying a fleet of transports having on board 6000 men, under the command of the Count de Rochambeau. Admiral Arbuthnot, who had under his command, at New York, only four sail of the line, on hearing of the arrival of the French at Rhode Island, was apprehensive of being attacked by their superior force. But he was soon relieved from his fears by the vigilance of the British ministry, who, on the sailing of the French fleet from Europe, had sent to his assistance Admiral Graves, with six ships of the line. On receiving this reinforcement, he sailed for Rhode Island for the purpose of encountering the French squadron, whilst Sir Henry Clinton proceeded with 8000 men to the north of Long Island, for the purpose of landing on the opposite part of the continent, and attacking their land

forces. But the British admiral found the enemy's ships so well secured by batteries and other land fortifications, that he was obliged to content himself with blocking them up in their harbour; and Clinton, receiving intelligence that General Washington was preparing to take advantage of his absence by making an attack upon New York, hastened back to the relief of that place.

§ 32. *Treason of Arnold, and Death of André.*

Washington, on the retreat of General Clinton, withdrew to West Point, an almost impregnable position, situated about fifty miles to the northward of New York, on the Hudson River, by means of which he kept up a communication between the eastern and southern states; and having occasion, towards the end of the month of September, to go to Rhode Island to hold a conference with the French admiral and Count Rochambeau, he left the command of this important post to General Arnold, unconscious that in so doing he entrusted the fortunes of the infant republic to a traitor. Arnold was brave and hardy, but dissipated and profligate. Extravagant in his expenses, he had involved himself in debts, and having had, on frequent occasions, the administration of considerable sums of the public money, his accounts were so unsatisfactory, that he was liable to an impeachment on charges of peculation. Much had been forgiven indeed, and more would probably have been forgiven, to his valour and military skill. But alarmed by the terrors of a guilty conscience, he determined to get rid of pecuniary responsibility by betraying his country; and accordingly entered into a negotiation with Sir Henry Clinton, in which he engaged, when a proper opportunity should present itself, to make such a disposition of his troops as would enable the British to make themselves masters of West Point. The details of this negotiation were conducted by Major André, the adjutant-general of the British army, with whom Arnold carried on a clandestine correspondence, addressing him under the name of Anderson, whilst he himself assumed that of Gustavus. To facilitate their communications, the Vulture sloop of war was moved near to West Point, and the absence of Washington seeming to present a fit opportunity for the final

arrangement of their plans, on the night of the 21st of September, Arnold sent a boat to the Vulture to bring André on shore. That officer landed in his uniform between the posts of the two armies, and was met by Arnold, with whom he held a conference which lasted till day-break, when it was too late for him to return to the vessel. In this extremity, unfortunately for himself, he allowed Arnold to conduct him within one of the American posts, where he lay concealed till the next night. In the meantime the Vulture, having been incommoded by an American battery, had moved lower down the river, and the boatmen now refused to convey the stranger on board her. Being cut off from this way of escape, André was advised to make for New York by land; and, for this purpose, he was furnished with a disguise, and a passport signed by Arnold, designating him as John Anderson. He had advanced in safety near the British lines, when he was stopped by three New York militia-men. Instead of showing his pass to these scouts, he asked them "where they belonged to?" and, on their answering "to below," meaning to New York, with singular want of judgment, he stated that he was a British officer, and begged them to let him proceed without delay. The men, now throwing off the mask, seized him; and, notwithstanding his offers of a considerable bribe if they would release him, they proceeded to search him, and found upon his person papers which gave fatal evidence of his own culpability and of Arnold's treachery. These papers were in Arnold's handwriting, and contained exact and detailed returns of the state of the forces, ordnance, and defences of West Point and its dependencies, with the artillery orders, critical remarks on the works, an estimate of the number of men that were ordinarily on duty to man them, and the copy of a state of matters that had, on the sixth of the month, been laid before a council of war by the commander-in-chief. When André was conducted by his captors to the quarters of the commander of the scouting parties, still assuming the name of Anderson, he requested permission to write to Arnold, to inform him of his detention. This request was inconsiderately granted; and the traitor, being thus apprised of his peril, instantly made his escape. At this moment Washington arriving at West Point, was made acquainted with

the whole affair. Having taken the necessary precautions for the security of his post, he referred the case of the prisoner to a court-martial, consisting of fourteen general officers. Before this tribunal André appeared with steady composure of mind. He voluntarily confessed all the facts of his case. Being interrogated by the Board with respect to his conception of his coming on shore under the sanction of a flag, he ingenuously replied, that "if he had landed under that protection he might have returned under it." The court, having taken all the circumstances of his case into consideration, unanimously concurred in opinion "that he ought to be considered as a spy; and that, agreeably to the laws and usages of nations, he ought to suffer death." Sir Henry Clinton, first by amicable negotiation, and afterwards by threats, endeavoured to induce the American commander to spare the life of his friend; but Washington did not think this act of mercy compatible with his duty to his country, and André was ordered for execution. He had petitioned to be allowed to die a soldier's death; but this request could not be granted. Of this circumstance, however, he was kept in ignorance, till he saw the preparations for his final catastrophe, when, finding that the bitterness of his destiny was not to be alleviated as he wished, he exclaimed, "It is but a momentary pang!" and calmly submitted to his fate.

Soon after this sad occurrence, Washington, in writing to a friend, expressed himself in the following terms:—"André has met his fate, and with that fortitude which was to be expected from an accomplished gentleman and a gallant officer; but I am mistaken if Arnold is not undergoing, at this time, the torments of a mental hell." Whatever might be the feelings of the traitor, his treason had its reward. He was immediately appointed brigadier-general in the service of the King of Great Britain; and, on his promotion, he had the folly and presumption to publish an address, in which he avowed, that, being dissatisfied with the alliance between the United States and France, "he had retained his arms and command for an opportunity to surrender them to Great Britain." This address was exceeded in meanness and insolence by another, in which he invited his late companions in arms to follow his ex-

ample. The American soldiers read these manifestoes with scorn; and so odious did the character of a traitor, as exemplified in the conduct of Arnold, become in their estimation, that "desertion totally ceased amongst them at this remarkable period of the war*."

Circumstances, however, took place soon after the discovery of Arnold's treachery, which led that renegade to entertain delusive hopes that the army of Washington would disband itself. The Pennsylvanian troops now serving on the Hudson had been enlisted on the ambiguous terms of "serving three years, or during the continuance of the war." As the three years from the date of their enrolment were expired, they claimed their discharge, which was refused by their officers, who maintained that the option of the two above-mentioned conditions rested with the state. Wearied out with privations, and indignant at what they deemed an attempt to impose upon them, the soldiers flew to arms, deposed their officers, and under the guidance of others whom they elected in their place, they quitted Morristown and marched to Princeton. Here they were solicited by the most tempting offers on the part of some emissaries sent to them by Sir Henry Clinton, to put themselves under the protection of the British government. But they were so far from listening to these overtures, that they arrested Sir Henry's agents, and, their grievances having been redressed by the interposition of a committee of congress, they returned to their duty, and the British spies, having been tried by a board of officers, were condemned to death and executed.

A similar revolt of a small body of the Jersey line was quelled by the capital punishment of two of the ringleaders of the mutineers. The distresses which were the chief cause of this misconduct of the American soldiery were principally occasioned by the depreciation of the continental currency; which evil, at this period, effected its own cure, as the depreciated paper was by common consent, and without any act of the legislature, put out of use; and by a seasonable loan from France, and by the revival of trade with the French and Spanish West Indies, its place was speedily supplied by hard money.

§ 83. *Campaign of 1781 — Defeat of Greene, by Lord Cornwallis.*

Though the Spaniards and the Dutch had united with France in hostility against Britain, she, with dauntless spirit, every where made head against her foreign enemies; and his Majesty's ministers were now, still more than ever, determined, by an extension of combined measures, to reduce the North American provinces to submission. The plan of the campaign of 1781, accordingly, comprehended active operations in the states of New York, Georgia, South Carolina, and Virginia. The invasion of the last mentioned province was entrusted to Arnold, who, taking with him a force of about 1600 men, and a number of armed vessels, sailed up the Chesapeake, spreading terror and devastation wherever he came. An attempt to intercept him was made by the French fleet, which sailed from Rhode Island for that purpose; but after an indecisive engagement with the squadron of Admiral Arbuthnot, off the capes of Virginia, was obliged to return to Newport, leaving the invaded province open to the incursions of the British, who, making occasional advances into the country, destroyed an immense quantity of public stores, and enriched themselves with an extensive plunder of private property, at the same time burning all the shipping in the Chesapeake and its tributary streams, which they could not conveniently carry away as prizes. The Carolinas also suffered severely by the scourge of war. When Gates was superseded in the command of the American forces in that district, he was succeeded by General Greene, to whose charge he transferred the poor remains of his army, which were collected at Charlotte, in North Carolina, and which amounted only to 2000 men. These troops were imperfectly armed and badly clothed; and such was the poverty of their military chest, that they were obliged to supply themselves with provisions by forced requisitions made upon the inhabitants of the adjacent country. In these circumstances, to encounter the superior numbers of the enemy in pitched battle would have been madness. Greene, therefore, resolved to carry on the war as a partisan officer, and to avail himself of every opportunity of harassing the British in detail. The first enterprise which he undertook in prosecution of this system was eminently successful. Understand-

ing that the inhabitants of the district of Ninety-six, who had submitted to the royal authority, were severely harassed by the licensed acts of plunder committed by the king's troops and the loyalists, he sent General Morgan into that quarter with a small detachment, which was, on its arrival, speedily increased by the oppressed countrymen, who were burning for revenge. Lord Cornwallis, who was, at this moment, on the point of invading North Carolina, no sooner heard of this movement, than he sent Lieutenant-Colonel Tarleton with 1100 men, to drive Morgan out of the district. Tarleton was an excellent partisan officer, and had gained great reputation by his superior activity, and by his success in various rencounters with detached parties of the republican troops. This success, however, and the superiority of his numbers to those of Morgan's forces, caused him too much to despise the enemy. In pursuance of Lord Cornwallis's orders, he marched in quest of his antagonist, and, on the evening of the 16th of January, 1781, he arrived at the ground which General Morgan had quitted but a few hours before. At two o'clock the next morning he recommenced his pursuit of the enemy, marching with extraordinary rapidity through a very difficult country, and at daylight he discovered the enemy in his front. From the intelligence obtained from prisoners who were taken by his scouting parties, he learned that Morgan awaited his attack at a place called the Cowpens, near Pacolet River. Here the American commander had drawn up his little army, two-thirds of which consisted of militia, in two lines, the first of which was advanced about two hundred yards before the second, with orders to form on the right of the second in case the onset of the enemy should oblige them to retire. The rear was closed by a small body of regular cavalry, and about forty-five mounted militia men. On the sight of this array, Tarleton ordered his troops to form in line. But before this arrangement was effected, that officer, obeying the dictates of valour rather than those of prudence, commenced the attack, heading his squadron in person. The British advanced with a shout, and assailed the enemy with a well-directed discharge of musketry. The Americans reserved their fire till the British were within forty or fifty yards of their ranks, and then poured among them a volley which

did considerable execution. The British, however, undauntedly pushed on and swept the militia off the field. They then assailed the second line, and compelled it to fall back on the cavalry. Here the Americans rallied, and renewed the fight with desperate valour: charging the enemy with fixed bayonets, they drove back the advance, and following up their success, overthrew the masses of their opponents as they presented themselves in succession, and finally won a complete and decisive victory. Tarleton fled from the bloody field, leaving his artillery and baggage in the possession of the enemy. His loss amounted to 300 killed and wounded, and 500 prisoners, whilst that of the Americans was only twelve killed and sixty wounded. Immediately after the action, General Greene sent off his prisoners, under a proper guard, in the direction of Virginia; and as soon as he had made the requisite arrangements, he followed them with his little army. On receiving intelligence of Tarleton's disaster, Lord Cornwallis hastened in pursuit of the retreating enemy, and forced his marches with such effect, that he reached the Catawba River on the evening of the day on which Morgan had crossed it; but here his progress was for a short while impeded, as a heavy fall of rain had rendered the stream impassable. When the waters subsided, he hurried on, hoping to overtake the fugitives before they had passed the Yadkin; but when he had arrived at that river, he found to his mortification that they had crossed it, and had secured the craft and boats which they had used for that purpose on the eastern bank. He therefore marched higher up the stream, till he found the river fordable. Whilst he was employed in this circuitous movement, General Greene had united his forces with those of Morgan, at Guilford Court-house. Still, however, the forces of the American commander were so inferior to those of his pursuers, that, not daring to risk an engagement, he hastened straight onwards to the River Dan; whilst Lord Cornwallis, traversing the upper country, where the streams are fordable, proceeded, in the hope that he might gain upon the enemy, so as to overtake them, in consequence of their being obstructed in their progress by the deep water below. But so active was Greene, and so fortunate in finding the means of conveyance, that he crossed the Dan into Virginia, with his

whole army, artillery, and baggage. So narrow, however, was his escape, that the van of Cornwallis's army arrived in time to witness the ferrying over of his rear.

Mortified as Lord Cornwallis was by being thus disappointed of the fruits of this toilsome march, he consoled himself by the reflection that, the American army being thus driven out of North Carolina, he was master of that province, and was in a condition to recruit his forces by the accession of the loyalists, with whom he had been led to believe that it abounded. He therefore summoned all true subjects of his Majesty to repair to the royal standard, which he had erected at Hillsborough. This experiment had little success. The friends of government were in general timid, and diffident of his lordship's power ultimately to protect them. Their terrors were confirmed, when they learned that the indefatigable Greene had re-crossed the Dan, and had cut off a body of Tories who were on their march to join the royal forces, and that he had compelled Tarleton to retreat from the frontier of the province to Hillsborough. For seven days, the American commander manoeuvred within ten miles of the British camp; and at the end of that time, having received reinforcements from Virginia, he resolved to give Lord Cornwallis battle. The engagement took place on the 15th of March, at Guilford. The American army consisted of 4400 men, and the British of only 2400; but notwithstanding this disparity of numbers, disciplined valour prevailed. The American militia gave way with precipitation, and though the regulars fought with spirit, they were obliged to retreat, but only to the distance of three miles. Lord Cornwallis kept the field, but he had suffered such loss in the action, that he was unable to follow up his victory, and soon afterwards marched towards Wilmington, leaving behind him his sick and wounded. On this march he was pursued by Greene as far as Deep River.

§ 34. *Campaign of 1781 continued—
Defeat of Lord Rawdon, by General
Greene.*

At Wilmington, Lord Cornwallis made a halt for three days, for the purpose of giving his troops some rest; and at the end of that time, resolving to carry the war into Virginia, he marched to Petersburg, an inland town

of that province, situated on James River. Hither it was expected that he would have been followed by the enemy; but Greene, being aware that his lordship had by this movement approached nearer to the main army of the Americans, and confident that his motions would be closely watched by the Virginia militia, after mature consideration adopted the bold measure of again penetrating into South Carolina. That province was in the military occupation of the British, who were, indeed, harassed by the partisan troops of Marion and Sumpter, but were in such apparent strength, that there was reason to fear that the republicans, if not aided by further support, would abandon the cause of their country in despair. The British had formed chains of posts, which, extending from the sea to the western extremity of the province, maintained a mutual communication by strong patrols and bodies of horse. The first of these lines of defence was established on the Wateree, on the banks of which river the British occupied the well-fortified town of Camden, and Fort Watson, situated between that place and Charleston. The attack of the fort Greene entrusted to Marion, who soon compelled its garrison to surrender on capitulation. In encountering Lord Rawdon near Camden, Greene was not so fortunate. In consequence of the unsteadiness of a few of his troops, he was defeated, but moved off the ground in such good order, that he saved his artillery, and though wounded, he took up a position, at the distance of about five miles from Camden, from which he sent out parties to intercept the supplies, of which he was apprized that his antagonist was in the utmost need. In consequence of the vigilance of Greene in cutting off his resources, and of the loss of Fort Watson, which had been the link of his communication with Charleston, Lord Rawdon, after having in vain endeavoured to bring on a second general engagement with the Americans, was reduced to the necessity of destroying a part of his baggage, and retreating to the south side of the River Santee. This retrograde movement encouraged the friends of congress to resume their arms, and hasten to reinforce the corps of Marion, who speedily made himself master of the British posts on the Congaree, the garrisons of which were in general made prisoners, whilst those which escaped that fate by a timely evacuation of their positions, made good

their retreat to the capital of the province. Savannah River now presented the last line of defence held by the British, who there possessed the town of Augusta and the post of Ninety-six. The former of those places was attacked by Lieutenant-Colonel Lee, and after a defence of unprecedented obstinacy on the part of its commander, Colonel Brown, it surrendered on honourable terms. The important post of Ninety-six, commanded by Lieutenant-Colonel Cruger, was strongly fortified, and defended by 500 men. On reconnoitring the place, General Greene, whose army was not much more numerous than the garrison, determined to besiege it in form. He accordingly broke ground on the 25th of May, and pushed his works with such vigour, that he had approached within six yards of the ditch, and had erected a mound thirty feet high, from which his riflemen poured their shot with fatal aim upon the opposite parapet of the enemy, who were hourly expected to beat a parley. But this bright prospect of success was at once overclouded by the arrival of intelligence that Lord Rawdon, having received reinforcements from Ireland, was hastening to the relief of his countrymen at the head of 2000 men. In this extremity, Greene made a desperate effort to carry the place by assault, but was repulsed, and evacuating the works which he had constructed with so much labour, he retreated to the northward across the Saluda, from whence he was chased by Lord Rawdon beyond the Ennoree.

The feelings of the American commander on seeing the fruit of his toils thus suddenly and unexpectedly torn from his grasp, must have been of a most agonising nature. But Greene was gifted with an elasticity of spirit which prevented him from yielding to the pressure of misfortune, and his opponents seldom found him more dangerous than immediately after suffering a defeat. On the present occasion, when some of his counsellors, in the moment of despondency, advised him to retreat into Virginia, he firmly replied, that "he would save South Carolina, or perish in the attempt." On maturely deliberating on the object of the campaign, and on the relative situation of himself and the enemy, he was well aware that though Lord Rawdon was superior to him in the number as well as the discipline of his troops; yet, if his lordship kept his army concentrated, he could afford no

encouragement, or even protection, to the royalists, and that if it were divided, it might be beaten in detail. As he expected, the British commander, finding that he could not bring him to an engagement, took the latter course, and withdrawing a detachment from Ninety-six, re-established himself on the line of the Congaree. Within two days, however, after his arrival at the banks of that river, he was astonished to find his indefatigable enemy in his front, with numbers so recruited, that he thought it prudent to decline the battle which was offered him, and retreated to Orangeburgh, where he was joined by Lieutenant-Colonel Cruger, who, in the present circumstances, had thought it expedient to evacuate his post at Ninety-six. On the junction of the forces of these two commanders, Greene retired to the heights above Santee, from whence he sent his active coadjutors, Marion and Sumpter, with strong scouting parties, to interrupt the communication between Orangeburgh and Charleston. As a last effort to maintain their influence in the centre of the province, the British took post in force near the confluence of the Wateree and the Congaree; but on the approach of Greene, they retreated for the space of forty miles, and waited his threatened attack at the Entan Springs. Here an obstinate engagement took place, in which the British were defeated with the loss of 1100 men, and were compelled to abandon the province to the republicans, and take shelter in Charleston. Of all the incidents of the American revolutionary war, the most brilliant is this campaign of General Greene. At the head of a beaten army, undisciplined, and badly equipped, he entered the province of South Carolina, which was occupied, from its eastern to its western extremity, by an enemy much superior to him in numbers, in appointments, and in military experience. But by his genius, his courage, and his perseverance, he broke through their lines of operation, drove them from post to post, and though defeated in the field, he did not cease to harass them in detail, till he had driven them within the fortifications of the capital. Well did he merit the gold medal and the British standard bestowed upon him by a vote of congress for his services on this occasion. By his successes he revived the drooping spirits of the friends of independence in

the southern states, and prepared the way for the final victories which awaited the arms of his country in Virginia, and which led to the happy termination of the war.

Whilst the American commander was enjoying the honours bestowed upon him by his grateful countrymen as the just meed of his valour and skill in arms, Lord Rawdon, soon after his return to Charleston, by an example of severity brought odium on the British cause, and fired the breasts of the continentals with indignation. Amongst the American officers who distinguished themselves in the defence of South Carolina was Colonel Haynes, a gentleman of fortune, and of considerable influence in his neighbourhood. After the capitulation of Charleston, Haynes voluntarily surrendered himself to the British authorities, requesting to be allowed his personal liberty on his parole. This indulgence, usually granted to officers of rank, he could not obtain; and was told that he must either take the oath of allegiance to his Britannic Majesty, or submit to close confinement. In an evil hour, induced by family considerations, he chose the former alternative, and signed a declaration of fealty to George III., protesting, however, against the clause which required him to support the royal government with arms; which clause the officer who received his submission assured him it was not intended to enforce. The officer in question no doubt in this assurance exceeded his authority, and Haynes was time after time summoned to join the royal standard. Regarding this as a breach of the contract into which he had entered with the British, he again took up arms on the side of independence, and having been taken prisoner in a skirmish with part of the royal forces, he was, without the formality of a trial, ordered for execution by Lord Rawdon. To the petitions of this unfortunate officer's children, as well as those of the inhabitants of Charleston, his lordship turned a deaf ear, and Haynes suffered death as a rebel and a traitor. Though the death of this gallant soldier may be vindicated by the strictness of the law, its policy was, in the existing circumstances, extremely questionable.

§ 35. *Further Events of the Campaign — Preparations for the Siege of New York.*

It has already been related that, after

defeating General Greene at Guildford, Lord Cornwallis marched to Petersburg, in Virginia. His lordship did not take this step without hesitation. He well knew the enterprising character of his opponent, and was aware of the probability of his making an incursion into South Carolina. He flattered himself, however, that the forces which he had left in that province under the command of Lord Rawdon would suffice to keep the enemy in check. In this idea he was confirmed by the result of the battle of Camden, and by the receipt of intelligence that three British regiments, which had sailed from Cork, might be expected speedily to arrive at Charleston. No longer anxious, therefore, for the fate of South Carolina, he determined to march forwards, in the confident hope of increasing his military renown by the conquest of Virginia. He accordingly advanced with rapidity from Petersburg to Manchester, on James River, with a view of crossing over from that place to Richmond, for the purpose of seizing a large quantity of stores and provisions, which had been deposited there by the Americans. But on his arrival at Manchester, he had the mortification to find that, on the day before, this depot had been removed by the Marquis de la Fayette, who, at the command of congress, had hastened from the Head of Elk to oppose him. Having crossed James River at Westown, his lordship marched through Hanover County to the South Anna River, followed at a guarded distance by the marquis, who, in this critical contingency, finding his forces inferior to those of the enemy, wisely restrained the vivacity which is the usual characteristic of his age and country. But having effected a junction with General Wayne, which brought his numbers nearly to an equality with those of the British, and having once more, by a skilful manœuvre, saved his stores, which had been removed to Albemarle old courthouse, he displayed so bold a front, that the British commander fell back to Richmond, and thence to Williamsburgh. On his arrival at the latter place, Lord Cornwallis received despatches from Sir Henry Clinton, requiring him instantly to send from his army a detachment to the relief of New York, which was threatened with a combined attack by the French and the Americans. The consequent diminution

of his force induced his lordship to cross James River, and to march in the direction of Portsmouth. Before, however, the reinforcements destined for New York had sailed, he received counter-orders and instructions from Sir Henry Clinton, in pursuance of which he conveyed his army, amounting to 7000 men, to York Town, which place he proceeded to fortify with the utmost skill and industry.

The object of Lord Cornwallis in thus posting himself at York Town, was to co-operate in the subjugation of Virginia with a fleet which he was led to expect would about this time proceed from the West Indies to the Chesapeake. Whilst his lordship was anxiously looking out for the British penants, he had the mortification, on the 30th of August, to see the Count de Grasse sailing up the bay with twenty-eight sail of the line, three of which, accompanied by a proper number of frigates, were immediately despatched to block up York River. The French vessels had no sooner anchored, than they landed a force of 3200 men, who, under the command of the Marquis de St. Simon, effected a junction with the army of La Fayette, and took post at Williamsburg. Soon after this operation, the hopes of the British were revived by the appearance off the Capes of Virginia, of Admiral Graves, with twenty sail of the line,—a force which seemed to be competent to extricate Lord Cornwallis from his difficult position. These hopes, however, proved delusive. On the 7th of September, M. de Grasse encountered the British fleet, and a distant fight took place, in which the French seemed to rely more on their manœuvring than on their valour. The reason of this was soon apparent. In the course of the night which followed the action, a squadron of eight line-of-battle ships safely passed the British, and joined De Grasse, in consequence of which accession of strength to the enemy, Admiral Graves thought it prudent to quit that part of the coast, and retire to New York. This impediment to their operations having been removed, the Americans and French directed the whole of their united efforts to the capture of York Town.

This had not, however, been the original design of General Washington at the commencement of the campaign. Early in the spring he had agreed with Count Rochambeau to lay siege to New

York, in concert with a French fleet which was expected to reach the neighbourhood of Staten Island in the month of August. He had accordingly issued orders for considerable reinforcements, especially of militia, to join his army in proper time to commence the projected operations. The French troops under Rochambeau having arrived punctually at his encampment near Peek's Kill, General Washington advanced to King's Bridge, and hemmed in the British in York Island. Every preparation seemed to be now in forwardness for the commencement of the siege; but the militia came in tardily. The adjacent states were dilatory in sending in their quotas of troops; and whilst he was impatiently awaiting their arrival, Washington had the mortification to receive intelligence that Clinton had received a reinforcement of 3000 Germans. Whilst his mind was agitated by disappointment, and chagrined by that want of zeal on the part of the middle states which he apprehended could not but bring discredit on his country, in the estimation of his allies, he was relieved from his distress by the news of the success of Greene in driving Lord Cornwallis into York Town; and at the same time learning that the destination of Count de Grasse was the Chesapeake, and not Staten Island, he resolved to transfer his operations to the state of Virginia. Still, however, he kept up an appearance of persevering in his original intention of making an attack upon New York, and in this feint he was aided by the circumstance, that when this was in reality his design, a letter, in which he had detailed his plans for its prosecution, had been intercepted, and read by Sir Henry Clinton. When, therefore, in the latter end of August, he broke up his encampment at Peek's Kill, and directed his march to the south, the British commander, imagining that this movement was only a stratagem calculated to throw him off his guard, and that the enemy would speedily return to take advantage of his expected negligence, remained in his quarters, and redoubled his exertions to strengthen his position. In consequence of this error, he lost the opportunity of impeding the march of the allied army, and of availing himself of the occasions which might have presented themselves of bringing it to action before it could effect a junction with the troops already assembled in the vicinity of York Town. Thus marching onwards

without molestation, General Washington reached Williamsburgh on the 14th of September, and immediately on his arrival, visiting the Count de Grasse on board his flag-ship, the *Ville de Paris*, settled with him the plan of their future operations.

§ 36. *Siege of York Town—Surrender of Lord Cornwallis.*

In pursuance of this arrangement, the combined forces, to the amount of 12,000 men, assembled at Williamsburgh, on the 25th of September; and on the 30th of the same month marched forward to invest York Town, whilst the French fleet, moving to the mouth of York River, cut off Lord Cornwallis from any communication with a friendly force by water. His lordship's garrison amounted to 7000 men, and the place was strongly fortified. On the right it was secured by a marshy ravine, extending to such a distance along the front of the defences as to leave them accessible only to the extent of about 1500 yards. This space was defended by strong lines, beyond which, on the extreme left, were advanced a redoubt and a bastion, which enfiladed their approach to Gloucester Point, on the other side of York River, the channel of which is here narrowed to the breadth of a mile, which post was also sufficiently garrisoned, and strongly fortified. Thus secured in his position, Lord Cornwallis beheld the approach of the enemy with firmness, especially as he had received despatches from Sir Henry Clinton, announcing his intention of sending 5000 men in a fleet of twenty-three ships of the line to his relief.

The allied forces on their arrival from Williamsburgh immediately commenced the investiture both of York Town and of Gloucester Point; and on the 10th of October they opened their batteries with such effect, that their shells, flying over the town, reached the shipping in the harbour, and set fire to the *Charon* frigate, and to a transport. On this inauspicious day, too, Lord Cornwallis received a communication from Sir Henry Clinton, conveying to him the unwelcome intelligence that he doubted whether it would be in his power to send him the aid which he had promised.

On the following morning the enemy commenced their second parallel, and finding themselves, in this advanced position, severely annoyed by the bastion and redoubt which have been mentioned

above, they resolved to storm them. The reduction of the former of these works was committed to the French, whilst the attack of the latter was entrusted to the Americans. Both parties rushing to the assault with the spirit of emulation which this arrangement was calculated to inspire, the works in question were speedily carried at the point of the bayonet.

It must be mentioned to the honour of the American soldiers, that though in revenge for a massacre recently committed at New London, in Connecticut, by a body of troops under the command of the renegade Arnold, they had been ordered to take no prisoners, they forebore to comply with this requisition, and when they had penetrated into the redoubt, spared every man who ceased to resist. On the 16th of October, a sally was made from the garrison, but with indifferent success; and Lord Cornwallis was now convinced that he could avoid surrender only by effecting his escape by Gloucester Point. Seeing himself therefore reduced to the necessity of trying this desperate expedient, he prepared as many boats as he could procure, and on the night of the 16th of October attempted to convey his army over York River to the opposite promontory. But the elements were adverse to his operations. The first division of his troops was disembarked in safety; but when the second was on its passage, a storm of wind and rain arose, and drove it down the river.

Though this second embarkation worked its way back to York Town on the morning of the 17th, Lord Cornwallis was convinced, however unwillingly, that protracted resistance was vain. No aid appeared from New York—his works were ruined—the fire from the enemy's batteries swept the town; and sickness had diminished the effective force of the garrison. In these painful circumstances, nothing remained for him but to negotiate terms of capitulation. He accordingly sent a flag of truce, and having agreed to give up his troops as prisoners of war to congress, and the naval force to France, he, on the 19th of October, marched out of his lines with folded colours; and proceeding to a field at a short distance from the town, he surrendered to General Lincoln, with the same formalities which had been prescribed to that officer at Charleston, eighteen months before. Another coincidence

was remarked on this occasion. The capitulation under which Lord Cornwallis surrendered was drawn up by Lieutenant-Colonel Laurens, whose father had filled the office of president of congress, and having been taken prisoner when on his voyage to Holland, in quality of ambassador from the United States to the Dutch Republic, had been consigned, under a charge of high treason, to a rigorous custody in the Tower of London, of which fortress his lordship was constable.

Had Lord Cornwallis been able to hold out five days longer than he did, he might possibly have been relieved; for on the 24th of October, a British fleet, conveying an army of 7000 men, arrived off the Chesapeake; but finding that his lordship had already surrendered, this armament returned to New York and Sandy Hook.

§ 37. *Provisional Treaty of Peace, 30th November, 1782.*

It was with reason that the congress passed a vote of thanks to the captors of York Town, and that they went in procession, on the 24th of October, to celebrate the triumph of their arms, by expressing, in the solemnities of a religious service, their gratitude to Almighty God for this signal success. The surrender of Lord Cornwallis was the virtual termination of the war. From this time forward, to the signature of the treaty of peace, the British were cooped up in New York, Charleston, and Savannah. From these posts they now and then, indeed, made excursions for the purpose of foraging and plunder; but being utterly unable to appear in force in the interior of the country, they found themselves incompetent to carry on any operations calculated to promote the main object of the war—the subjugation of the United States. Perseverance, however, still seemed a virtue to the British cabinet. Immediately after the arrival of the intelligence of the capture by the Americans of a second British army, George III. declared, in a speech to parliament, "that he should not answer the trust committed to the sovereign of a free people, if he consented to sacrifice, either to his own desire of peace, or to their temporary ease and relief, those essential rights and permanent interests, upon the maintenance and preservation of which the future strength and security of the country must for ever depend." When called

upon in the House of Commons for an explanation of this vague and assuming language, Lord North avowed that it was the intention of ministers to carry on in North America "a war of posts;" and such was, at that moment*, the state of the house, that, in despite of the eloquence of Mr. Fox, who laboured to demonstrate the absurdity of this new plan, a majority of 218 to 129 concurred in an address which was an echo of his majesty's speech. But the loud murmurs of the people, groaning beneath the weight of taxation, and indignant under a sense of national misrule, at length penetrated the walls of the senate-house. Early in the year 1782, motion after motion was made in the House of Commons, expressive of the general wish for the termination of hostilities with the United States. The minister held out with obstinacy, though, on each renewal of the debate, he saw his majority diminish; till at length, on the 27th of February, on a motion of General Conway, expressly directed against the further prosecution of offensive war on the continent of North America, he was left in a minority of nineteen. This victory was followed up by an address from the house to his majesty, according to the tenor of General Conway's motion. To this address so equivocal an answer was returned by the crown, that the friends of pacification deemed it necessary to speak in still plainer terms; and on the 4th of March, the House of Commons declared, that whosoever should advise his majesty to any further prosecution of offensive war against the colonies of North America should be considered as a public enemy. This was the death-blow to Lord North's administration. His lordship retired from office early in the month of March, and was succeeded by the Marquis of Rockingham, the efforts of whose ministry were as much and as cordially directed to peace as those of Lord Shelburne's. On the death of the Marquis, which took place soon after he had assumed the reins of government, the Earl of Shelburne was called on to preside over his Majesty's councils, which, under his auspices, were directed to the great object of pacification. To this all the parties interested were well inclined. The English nation was weary of a civil war in which it had sustained so many discomfitures. The king of France,

who had reluctantly consented to aid the infant republic of North America, was mortified by the destruction of the fleet of De Grasse, in the West Indies, and found the expenses of the war press heavily on his finances. The Spaniards were disheartened by the failure of their efforts to repossess themselves of Gibraltar; and the Dutch were impatient under the suspension of their commerce. Such being the feelings of the belligerents, the negotiations for a peace between Great Britain and the United States were opened at Paris, by Mr. Fitzherbert and Mr. Oswald on the part of the former power, and by John Adams, Doctor Franklin, John Jay, and Henry Laurens, on behalf of the latter. These negotiations terminated in provisional articles of peace, which were signed on the 30th November, 1782. By this important instrument, the independence of the thirteen provinces was unreservedly acknowledged by his Britannic Majesty, who moreover conceded to them an unlimited right of fishing on the banks of Newfoundland and the River St. Lawrence, and all other places where they had been accustomed to fish. All that the British plenipotentiaries could obtain for the American loyalists was, a provision that congress should earnestly recommend to the legislatures of the respective states the most lenient consideration of their case, and a restitution of their confiscated property.

§ 38. Conclusion.

Thus terminated the American revolutionary war—a war which might have been prevented by the timely concession of freedom from internal taxation, as imposed by the British parliament, and by an abstinence on the part of the Crown from a violation in this important particular of chartered rights. The confidential letters of Doctor Franklin evince that it was with extreme reluctance the American patriots adopted the measure of severing the colonies from the mother country. But when they had taken this decisive step, by the declaration of independence, they firmly resolved to abide by the consequences of their own act; and, with the single exception of Georgia, never, even in the most distressful contingencies of the war, did any public body of the provinces shew any disposition to resume their allegiance to the king of Great Britain. Still, it may be a matter of doubt if, when we consider the conduct

of the inhabitants of the Jerseys, when Washington was flying before General Howe, whether, had the British commanders restrained their troops with the strictness of discipline, and exercised towards the American people the conciliatory spirit evinced in Canada by Sir Guy Carleton, the fervor of resistance might not have been abated and subdued. But civil wars are always conducted with cruelty and rancour. The Americans were treated by the British soldiery not as enemies entitled to the courtesies of war, but as rebels, whose lives and property lay at the mercy of the victors. Hence devastation marked the track of the invading forces, while the inhabitants found their truest safety in resistance, and their best shelter in the republican camp. Nor will he who reads with attention the minute details of this eventful contest be surprised, that the British ministry persevered in the war when success might have appeared to be hopeless. It is now well known that George III. revolted from the idea of concession to his disobedient subjects, and was determined to put all to the hazard, rather than acknowledge their independence. Lord North, at an early period of the war, had misgivings as to its ultimate success, but he had not firmness enough to give his sovereign unwelcome advice; whilst Lord George Germaine and the other ministers fully sympathised with the royal feelings, and entered heartily into the views of their master. They were apprised, from time to time, of the destitute condition of the American army, but living as they did in luxury, and familiarized as they were with the selfishness and venality of courts and political parties, they could not conceive the idea of men sacrificing health, property, and life, for their country's good. When Washington was beaten in the field, such men imagined that the affairs of the congress were desperate, and flattered themselves that the great body of the colonists, wearied and disheartened by successive defeats, would be glad to accept the royal mercy, and to return to their allegiance. In these notions they were confirmed by the loyalists, who, giving utterance to their wishes, rather than stating the truth, afforded the most incorrect representations of the feelings and temper of their countrymen. Some of these coming over to England were received with favour in high circles, and

by their insinuations kept up to the last a fatal delusion. These individuals at length fell the victims of their own error. Traitors to their country, they lost their property by acts of confiscation, and while they lived on the bounty of the British crown, they had the mortification to see the country which they had deserted, rise to an exalted rank amongst the nations of the earth.

It must also be admitted that the people of England sympathized with their Government up to a late period, in the feelings which prompted perseverance in this iniquitous war. Excessive loyalty to the Crown; a certain undefined appetite for military achievements; resentment against the Americans for questioning British supremacy, strongly impressed the public mind, and rendered the war disgracefully popular in many quarters. Such sentiments were fostered and encouraged by the accession of France, Spain, and Holland to the cause of her revolted states, and the prospect of naval victories. We may reasonably indulge the hope, that the lesson then, and during the French revolutionary war, taught by experience, and the subsequent improvement of the public mind, will prevent it from ever again joining its government in such a conspiracy against freedom and justice.

When the ministers of the king of France incited their master to enter into an alliance with the revolted colonies, they did so under the idea that the separation of those provinces from the parent state would ruin the resources of Great Britain. Events have proved how erroneous was their calculation. From her commercial intercourse with Independent America, Great Britain has derived more profit than she could have gained had her growth been stunted by the operation of restrictive laws. In a constitutional point of view, also, the disjunction of the thirteen provinces from the British empire will not be contemplated with any regret by those who are jealous of the influence of the crown, and who will reflect that, by the peace of 1782, it was deprived of the appointment of a host of governors, lieutenant-governors, chief justices, and other officers, selected from the scions of powerful families, and protected from the consequences of the abuse of their trusts by the influence of those whose dependants they are,

NOTE.

SOME doubts having arisen as to whether the question which led to the separation of the colonies from the mother-country was really confined to the point of taxation, and did not also involve the claim of Parliament to legislate generally for the colonies, the introduction into this note of a plain statement of the fact and the law may not be thought superfluous.

It will be clearly seen by a reference to the preceding narrative, that in the lengthened discussions which were carried on prior to the breaking out of hostilities, the point at issue was the right of Parliament to tax the colonies, and not its general power of legislation for them. This power no one seems at that time to have thought of questioning for a moment; though all the colonies united in strenuously maintaining the exclusive right of taxing themselves, which they had enjoyed by charter and by constant usage. This was also the view of the subject uniformly taken by the parliamentary advocates of the American colonies; and had it not been deemed constitutionally sound, the colonies, jealous as they were of their political rights, would not have been content silently to acquiesce in it. "I assert (said Lord Chatham on the 17th December, 1765), I assert the authority of this country over the colonies to be sovereign and supreme, in every circumstance of government and legislation." But he added, "Taxation is no part of the governing or legislating power,—taxes are a voluntary grant of the people alone."

Such was then the undisputed theory and practice of the constitution, even as recognised by the colonies themselves.

But it has been supposed that although, prior to the revolution, the colonies never questioned the supreme legislative authority of the mother-country, yet that parliament had, by some act of its own divested itself of this authority. This, however, is not the case. On the contrary, the Act of 6 *Geo. III. c. 12*, commonly called the *Declaratory Act*, distinctly lays it down as the law of the realm, "that the King, Lords, and Commons in Parliament assembled, had, hath, and of full right ought to have, full power and authority to make laws and statutes of sufficient force and validity to bind, in all cases whatsoever, the colonies subject to the British crown."

The Act remains unrepealed, and is still in full force, with one single exception from the universality of its declaration, which will be found in the 18th *George III. c. 12*. A clause in this statute enacts, that from and after its passing, the king and parliament will not impose any duty or tax on the colonies, except such as may be required for the regulation of commerce, and that the net produce of such duty or tax shall be applied to the use of each colony respectively in which it is levied, in such manner as the other duties collected by the authority of the assemblies of such colonies are applied.

That the practice of parliament has been in accordance with the principle of these declaratory enactments might be shewn by a reference to numerous statutes subsequently enacted, which directly legislate for the colonies.

The authority of Mr. Burke may be added, as that of the person most jealous on the subject of colonial rights, for he, in fact, was the parliamentary leader throughout the contest against the rights of the mother-country, and sacrificed his seat at Bristol to his opinions in favour of the colonies. But in his celebrated speech on American taxation in 1774, he expressly maintains the supremacy of parliament, and the full extent of the rights claimed by the Declaratory Act, to which he holds the abandonment of the taxing power no exception. This forms the conclusion of the speech. (See Works, vol. ii., pp. 435 and 440, 8vo edition.) The same doctrines he continued to hold in 1775, when he renewed his resolutions of conciliation, and in 1780, when he retired from the representation of Bristol. In his famous speech upon the former occasion, he declares himself to wish as little as any man being to impair the smallest particle of the supreme authority of parliament (Works, vol. iii., p. 109), and in 1792, when he had become, if possible, more attached to the colonial party, both here and in France, he prepared a slave code, to be enacted in England for our West India colonies.

This statement proves, first, that the mother-country never abandoned the legislative authority, except as regards the right of taxing; and secondly, that the colonists never even claimed any further exemption from the jurisdiction of Parliament.

A TREATISE

ON

THE PRINCIPLES, PRACTICE, AND HISTORY

OF

COMMERCE.

CHAPTER I.

Definition and Origin of Commerce—Separation of Employments among those by whom Commercial Transactions are carried on—Advantages of this Separation—Wholesale Dealers—Retailers—Brokers, &c.

COMMERCE, from *commutatio mercium*, is the exchange of one sort of commodities for some other sort of commodities.

This species of industry has its origin in the nature of man and the circumstances under which he is placed; and its rise is coeval with the formation of society. The varying powers and dispositions of different individuals dispose them to engage in preference in particular occupations; and every one finds it for his advantage to confine himself wholly or principally to some one employment, and to barter or exchange such portions of his produce as exceed his own demand, for such portions of the peculiar produce of others as he is desirous to obtain and they are disposed to part with. The division and combination of employments is carried to some extent in the rudest societies, and it is carried to a very great extent in those that are improved. But to whatever extent it may be carried, commerce must be equally advanced. The division of employments could not exist without commerce, nor commerce without the division of employments: they mutually act and react upon each other. Every new sub-division of employments occasions a greater extension of commerce; and the latter cannot be extended without contributing to the better division and combination of the former.

In rude societies, the business of commerce, or the exchange of commodities, is carried on by those who produce them. Individuals having more of any article than is required for their own use, endeavour to find out others in

want of it, and who at the same time possess something that they would like to have. But the difficulties and inconveniences inseparable from a commercial intercourse carried on in this way are so obvious as hardly to require being pointed out. Were there no merchants or dealers, a farmer, for example, who had a quantity of wheat or wool to dispose of, would be obliged to seek out those who wanted these commodities, and to sell them in such portions as might suit them; and, having done this, he would next be forced to send to, perhaps, twenty different and distant places, before he succeeded in supplying himself with the various articles he might wish to buy. His attention would thus be perpetually diverted from the business of his farm; and while the difficulty of exchanging his own produce for that of others would prevent him from acquiring a taste for improved accommodations, it would tempt him to endeavour to supply most that was essential by his own labour and that of his family; so that the division of employments would be confined within the narrowest limits. The wish to obviate such inconveniences has given rise to a distinct mercantile class. Without employing themselves in any sort of production, merchants or dealers render the greatest assistance to the producers. They collect and distribute all sorts of commodities; they buy of the farmers and manufacturers the things they have to sell; and bringing together every variety of useful and desirable articles in shops and warehouses, individuals are able, without difficulty or loss of time, to supply themselves with whatever they want. Continuity is in consequence, given to all the operations of industry. As every one knows beforehand where he may dispose to the best advantage of all that he has to sell, and obtain all that he wishes to buy, an uninterrupted motion

is given to the plough and the loom. Satisfied that they will have no difficulty about finding merchants for their produce, agriculturists and manufacturers think only how they may improve and perfect their respective businesses. Their attention, no longer dissipated upon a variety of objects, is fixed upon one only. It becomes the object of every individual to find out machines and processes for facilitating the separate task in which he is engaged; and while the progress of invention is thus immeasurably accelerated, those who carry on particular businesses acquire that peculiar dexterity and *sleight of hand* so astonishing to those who live in places where the division of labour is but imperfectly established. Facility of exchange is, in truth, the vivifying principle, the very soul of industry; and no interruption is ever given to it without producing the most ruinous consequences.

The merchants, or dealers, collect their goods in different places in the least expensive manner; and by carrying them in large quantities at a time, they can afford to supply their respective customers at a cheaper rate than they could supply themselves. Not only, therefore, do they, by enabling every employment to be carried on without interruption, and the divisions of labour to be perfected, add prodigiously to the powers of industry, and by consequence to the wealth of the community, but they also promote the convenience of every one, and reduce the cost of merchandising to the lowest limit. According as commerce is extended, each particular business becomes better understood, better cultivated, and carried on in the best and cheapest method: where it is far advanced, the whole society is firmly linked together; every man is indebted to every other man for a portion of his necessities, conveniences, and enjoyments; everything is mutual and reciprocal; and a large country becomes, in effect, from the intimate correspondence kept up through the medium of the mercantile class, like a large city.

The annihilation of the class of traders would deprive us of all these advantages. The difficulties that would then be experienced in selling and buying would oblige every one to attempt, in so far as possible, directly to supply his own wants; the division of employments would be contracted on all sides,

and the country would gradually relapse into a state little, if at all, superior to its state at the Conquest.

The celebrated Italian economist, the Count di Verri, has defined commerce to be the conveyance of commodities from place to place (*trasporto delle mercanzie da un luogo a luogo*). This definition has been adopted by M. Say, who contends that commerce does not consist in exchanges, but in bringing commodities within reach of the consumers (*il consiste essentiellement à placer un produit à la portée de ses consommateurs*). But this is plainly to confound the means with the end; the preparations for an exchange with the exchange itself. The conveyance of commodities from place to place is necessary to enable commerce to be carried on; but unless they be conveyed in the view of being sold or exchanged for other commodities, and unless that exchange actually takes place, there is no room or ground for considering the conveyance in the light of a commercial operation. It is obvious, too, that though the Count di Verri's definition were not erroneous in this respect, it is not sufficiently comprehensive. Suppose that a hat-manufactory is established in Regent-street, and that a shop is attached to it, where the hats are sold; no one doubts that those employed in this shop are engaged in a commercial undertaking, and yet they have nothing to do with the carriage of commodities. Whatever, therefore, may be the particular sort of commerce carried on, whether the commodities have been brought from a distance or produced on the spot, its object and end is an exchange; when this end is not attained, no act of commerce can be said to have taken place.

The erroneous definition of commerce which M. Say has adopted, has hindered him from rightly appreciating its influence. 'In commerce,' says he, 'there is a genuine production, because there is a modification productive of utility and value. The merchant, after buying a commodity at its current price, sells it again at its current price; but the last price is greater than the former, because the merchant has brought the commodity into a situation which has really augmented its price; and the society is enriched by this augmentation.'—(*Cours d'Economie Politique*, t. ii., p. 213.) But though this be true, it is not the whole truth, nor even the greater

part of it. Suppose that a hatmaker and a shoemaker live in contiguous houses: if the one exchange his hats for the other's shoes, society will not, certainly, gain much by the change in the locality of the commodities; but it will, notwithstanding, be materially benefited by the transaction; for, in consequence of the exchange, each tradesman will be able to confine himself to his own business: the hatmaker will not be obliged to waste his time in clumsy attempts to make his own shoes, nor will the shoemaker be compelled to make his own hat. It is in this that the *peculiar* advantage of commerce consists. What an individual gives for anything is, speaking generally, the fair equivalent of what he gets. But the facility of exchanging allows every one, as has been already seen, to apply all his energies to some one department; and in this way occasions the production of an incomparably greater quantity of all sorts of wealth than it would otherwise be possible to produce.

The mercantile class has been divided into two leading classes—the wholesale dealers and the retail dealers. This division, like the divisions in other employments, has grown out of a sense of its utility. The wholesale merchants buy the goods at first hand of the producers; but instead of disposing of them to the consumers, they generally sell them to the retailers or shopkeepers, by whom they are retailed or distributed to the public in such quantities and in such a way as is most suitable for them. The interest of all parties is consulted by this division. Had the wholesale dealers attempted also to retail their goods, they could not have given that undivided attention to any part of their business, so necessary to ensure its success. A retailer should be constantly at his shop; not merely that he may attend to the orders daily sent to him, but that he may learn all that transpires with respect to the situation of his customers, their wants, and their circumstances. But wholesale dealers, being obliged to attend to what is going on in different and distant quarters, cannot give this minute attention to what happens in their immediate vicinity; and though they could, the capital required to carry on a wholesale business would not be sufficient for that purpose were the business of retailing joined to it. Were there only one class of merchants, the capital and the number of indi-

viduals employed in commercial undertakings would not, probably, be less than at present; but the merchant, being obliged to apply himself principally to one department, would have to leave the chief share of the management of the other to servants—a change which, as every one knows, would be productive of the most mischievous consequences.

There can, therefore, be no doubt that the separation in question has been highly advantageous. The classes of merchants, like those of artificers, are mutually serviceable to each other and to the public. Without this subdivision, commerce would have been impeded in its operations; particular branches of it would have been comparatively neglected; nor would any branch have been carried on with the same economy and attention with which all are now conducted.

But notwithstanding what has been stated, a notion seems to be very generally entertained, that retail dealers are the least useful class of tradesmen; and their increase has seldom been looked upon with a favourable eye. This, however, is a most unfounded prejudice. Every one is ready to admit, that the wholesale merchant who brings a cargo of coal from Newcastle, or a cargo of tea from China, has rendered an essential service to the community. But of what use would this importation be, were not these commodities retailed, or divided and sold in portions suited to the wants and means of the citizens? There are but few persons, even in this immense metropolis, who would choose to supply themselves at once with an entire cargo of coal; and there is not one who would so much as think of buying a cargo of tea. The truth is, that the one species of dealers is in no respect more or less advantageous than the other. If commodities were not retailed, the wholesale trade would have to be abandoned; while, on the other hand, retailing could not be carried on without the assistance of the wholesale dealers.

The following passage from the *Wealth of Nations* confirms and illustrates what has now been stated:—

‘Unless a capital was employed in breaking and dividing certain proportions either of the rude or manufactured produce into such small parcels as suit the occasional demands of those who want them, every man would be obliged

to purchase a greater quantity of the goods he wanted than his immediate occasions required. If there was no such trade as a butcher, for example, every man would be obliged to purchase a whole ox or a whole sheep at a time. This would generally be inconvenient to the rich, and much more so to the poor. If a poor workman was obliged to purchase a month's or six months' provisions at a time, a great part of the stock which he employs as a capital in the instruments of his trade or in the furniture of his shop, and which yields him a revenue, he would be forced to place in that part of his stock which is reserved for immediate consumption, and which yields him no revenue. Nothing can be more convenient for such a person than to be able to purchase his subsistence from day to day, or even from hour to hour, as he wants it. He is thereby enabled to employ almost his whole stock as a capital; he is thus enabled to furnish work to a greater value; and the profit which he makes by it in this way much more than compensates the additional price which the profits of the retailer imposes upon the goods. The prejudices of some political writers against shopkeepers and tradesmen are altogether without foundation. So far is it from being necessary either to tax them or to restrict their numbers, that they can never be multiplied so as to hurt the public, though they may be so as to hurt one another. The quantity of grocery goods, for example, which can be sold in a particular town is limited by the demand of that town and its neighbourhood. The capital, therefore, which can be employed in the grocery trade cannot exceed what is sufficient to purchase that quantity. If this capital is divided between two different grocers, their competition will tend to make both of them sell cheaper than if it were in the hands of one only; and if it were divided among twenty, their competition would be just so much the greater, and the chance of their combining together, in order to raise the price, just so much the less. Their competition might, perhaps, ruin some of themselves; but to take care of this is the business of the parties concerned, and it may safely be left to their discretion: it can never hurt either the consumer or the producer. On the contrary, it must tend to make the retailers both sell cheaper and buy dearer than if the whole trade was monopolized by

one or two persons. Some of them, perhaps, may occasionally decoy a weak customer to buy what he has no occasion for. This evil, however, is of too little importance to deserve the public attention, nor would it necessarily be prevented by restricting their numbers.' (*Wealth of Nations*, vol. ii., p. 144.)

It is often asserted that the retail dealers make enormous profits, and that they charge exorbitant prices. But the smallest reflection must suffice to satisfy every reasonable person that these statements can have no good foundation. The retailers have no monopoly of the market. Any individual who thinks fit may open a retail shop to-morrow; and such being the case, can any one imagine that, in a country where competition is pushed to its farthest limits, and where thousands are upon the watch to find out methods of employing capital with the smallest additional advantage, a large class of traders, enjoying no peculiar privilege, and whose business is not difficult to learn, should be permanently and generally in the habit of realizing a comparatively large profit? Any such supposition would be absolutely ludicrous. It is true, indeed, that particular tradesmen, who have, by means of superior skill, or what, perhaps, is more common, through accident or superior address, obtained a reputation in the fashionable world, often realise immense profits. Such persons are in some measure emancipated from the influence of that competition which beats down the prices and profits of their neighbours to the same common level. There is a *je ne sais quoi* about their shops, which has a powerful attraction for certain classes of customers, and induces them to buy articles there, which they might buy elsewhere at a cheaper rate. But shopkeepers and customers of this description are but few in number; and the extra profits which the former make are far too inconsiderable, when considered as a whole, sensibly to affect the average rate of profit realised by the rest of the mercantile class.

Besides the peculiar description of persons now alluded to, the smaller class of retailers, or those established in country towns and villages, often seem to realise very large profits. But the magnitude of their gains is more apparent than real. Such persons are obliged to attend to their shops, and they must, therefore, sell their goods for

such a sum as will not only yield them the customary profits of stock at the time, but also the wages or remuneration to which they are entitled. When a large capital can be employed in the business of retailing, a small addition to the price of the goods sold is sufficient to afford wages; but where the business transacted is but small, the addition made to the price on account of wages must be proportionally large; and hence it is that groceries and such like articles are for the most part cheaper in cities than in the country. The cause of the discrepancy is, not that the country grocer is making large profits, but that he is obliged, in order to get a return for his trouble in attending to his shop, to increase considerably the price of the articles in which he deals.

'Apothecaries' profit,' says Dr. Smith, 'is become a by-word, denoting something uncommonly extravagant. This great apparent profit, however, is frequently no more than the reasonable wages of labour. The skill of an apothecary is a much nicer and more delicate matter than that of any artificer whatever; and the trust which is reposed in him is of much greater importance. He is the physician of the poor in all cases, and of the rich where the distress or danger is not very great. His reward, therefore, ought to be suitable to his skill and his trust, and it arises generally from the price at which he sells his drugs. But the whole drugs which the best employed apothecary, in a large market-town, will sell in a year, may not, perhaps, cost him above thirty or forty pounds. Though he should sell them, therefore, for three or four hundred, or at a thousand per cent. profit, this may frequently be no more than the reasonable wages of his labour, charged, in the only way in which he can charge them, upon the price of his drugs: the greater part of the apparent profit is real wages disguised in the garb of profit.' (*Wealth of Nations*, vol. i., p. 184.)

Besides the two great classes of wholesale and retail dealers, there are various subordinate classes, such as brokers, factors, agents, &c., employed in carrying on the business of commerce. We subjoin a few details respecting those that are most important.

Brokers are persons employed, as middle-men, to transact business or negotiate bargains between different merchants or individuals. They are sometimes

licensed by public authority, and sometimes not. They are divided into numerous classes, as bill or exchange brokers, stock brokers, ship and insurance brokers, &c. It is usual, too, for the brokers who negotiate sales of produce between different merchants, to confine themselves to some one department or line of business; and by attending to it exclusively, they acquire a more intimate knowledge of its various details, and of the credit of those engaged in it, than could be looked for on the part of a general merchant; and are consequently able, for the most part, to buy on cheaper and sell on dearer terms, than those less familiar with the business. It is to these circumstances, to a sense of the advantages to be derived from using their intervention in the transacting of business, that the extensive employment of brokers in London, and all other large commercial cities, is to be ascribed.

Factors are agents employed to transact business. They are not generally resident in the same place as their principals, but usually in a foreign country, or a distant part of the same country. They are authorized, either by letter of attorney, or otherwise, to receive, buy, and sell goods and merchandise, and, generally, to transact all sorts of business on account of their employers, under such conditions and limitations as the latter may choose to impose. A very large proportion of the foreign trade of this, and most other countries, is at present carried on by means of factors or agents.

A factor is usually paid by a per centage or commission on the goods he sells or buys. If he act under what is called a *del credere* commission, that is, if he guarantee the price of the goods sold on account of his principal, he receives an additional per centage to indemnify him for this additional responsibility. In cases of this sort, the factor stands in the buyer's place, and must answer to the principal for the value of the goods sold. But where the factor undertakes no responsibility, and intimates that he acts only on account of another, it is clearly established that he is not liable in the event of the buyer's failing.

Commercial travellers form, in Great Britain, a numerous and a highly useful class. They are employed by the wholesale merchants, and frequently also by the manufacturers. Their business is to visit the retail dealers in different

parts of the country, and to inform themselves of their character and circumstances, and the degree of credit that may be safely given to them; to give the dealers every requisite information with respect to the articles which they undertake to furnish; to receive payment of accounts; and to receive and transmit orders to their employers. The information that is thus obtained by the manufacturers and wholesale dealers enables them to conduct their business with comparative security; and the wish to stand well in the estimation of the traveller is a motive to the retail dealers to be punctual to their engagements. The travellers generally make their visits periodically, giving previous intimation of their approach to those whom they visit. The number of such persons in Great Britain is very great. Some are paid by a commission on the business which they perform; but the great majority are paid by salaries.

Hawkers and pedlars are a sort of ambulatory retail dealers. They were at one time very common in this, as they still are in several other countries: but since shops, for the sale of almost every sort of produce, have been opened in every considerable village throughout Britain, their numbers have been greatly diminished. They are obliged to take out licences.

CHAPTER II.

Different species of Trade—Home Trade .—Foreign Trade—Colony Trade—Influence and operation of each—Remarks on Dr. Smith's Theory, as to the comparative advantageousness of Commercial undertakings.

In a highly civilized country like Great Britain, the trade in every commodity in considerable demand, as corn, sugar, tea, timber, &c. affords employment for a separate class of traders. But for all purposes of general inquiry, it is sufficient to consider commerce under three heads, viz. (1.) the Home Trade, or that carried on between individuals of the same country; (2.) Foreign Trade, or that carried on between individuals of different countries; and (3.) the Colony Trade, or that carried on between the inhabitants of any particular country and its colonists. We subjoin a few remarks upon each of these heads.

I. *Home Trade.*—It has been already seen that the varying capacities and dis-

positions of different individuals occasion the introduction of a division of employments, and the practice of exchange or barter. But the external circumstances under which different individuals are placed, vary still more than their natural powers or tastes. One set inhabit a rich fertile plain, suitable for the growth of corn and other culmiferous crops; another set inhabit a mountainous district, the soil of which is comparatively sterile, but which is well fitted for rearing cattle; another set are planted upon the margin of a river, or arm of the sea, abounding in every facility for carrying on the business of fishing; and so on. Now it is obvious, that though the individuals belonging to any particular district had not established a division of labour amongst themselves, it would be highly for their advantage to establish one with those occupying other districts, the productions of which are materially different. When the inhabitants of Newcastle apply themselves principally to the coal trade, those of Essex to the raising of wheat, and those of the highlands of Scotland to the raising of cattle and wool,—each set avail themselves, in carrying on their employments, of the peculiar powers of production conferred by Providence on the districts they occupy; and by exchanging such portions of their produce as exceed their own consumption, for the surplus articles raised by others, their wealth, and that of every one else, is immeasurably increased. It is in this territorial division of labour, as it has been happily designated by Colonel Torrens, that the main advantage of commerce consists. In commercial countries, each individual may not only enter, at pleasure, on such pursuits as he deems most advantageous; but the entire population of districts and provinces are enabled to turn their energies into those channels in which they are sure to receive the greatest assistance from natural powers. Suppose England were divided into separate parishes, or even counties, surrounded respectively by Bishop Berkeley's wall of brass, and having no intercourse with each other, in what a miserable situation should we be! Instead of 1,500,000, London could not, under such circumstances, contain 15,000 inhabitants; and these would be exposed to numberless privations, of which we have not the slightest idea. Unless the territorial division of

labour were carried to some extent, the division of employments amongst individuals occupying the same district could be but very imperfectly established, and would be of comparatively little use. It is only when every one is able both to gratify his taste, and to avail himself of the varying capacities of production given to different districts, that the benefits of commerce can be fully appreciated; and that it becomes the most copious source of wealth, as well as the most powerful engine of civilization.

‘With the benefits of commerce,’ says an eloquent writer, ‘or a ready exchange of commodities, every individual is enabled to avail himself to the utmost of the peculiar advantage of his place; to work on the peculiar materials with which nature has furnished him; to humour his genius or disposition, and betake himself to the task in which he is peculiarly qualified to succeed. The inhabitant of the mountain may betake himself to the culture of his woods, and the manufacture of his timber; the owner of pasture lands may betake himself to the care of his herds; the owner of the clay-pit to the manufacture of his pottery; and the husbandman to the culture of his fields, or the rearing of his cattle; and any one commodity, however it may form but a small part in the whole accommodations of human life, may, under the facilities of commerce, find a market in which it may be exchanged for what will procure any other part, or the whole: so that the owner of the clay-pit, or the industrious potter, without producing any one article immediately fit to supply his own necessities, may obtain the possession of all that he wants. And commerce, in which it appears that commodities are merely exchanged, and nothing produced, is nevertheless, in its effects, very productive; because it ministers an encouragement and facility to every artist, in multiplying the productions of his own art; thus adding greatly to the mass of wealth in the world, in being the occasion that much is produced.’ (*Perguson’s Principles of Moral and Political Science*, vol. ii. p. 424.)

II. *Foreign Trade*.—The trade carried on between individuals of different countries is founded on precisely the same circumstances—the differences of soil, climate, and productions—on which is founded the trade between different districts of the same country. One country, like one district, is pecu-

liarily fitted for the growth of corn; another for the cultivation of the grape; a third abounds in minerals; a fourth has inexhaustible forests; and so forth.

‘*Hic segetes, illic veniunt felicius uvæ:*
 ‘*Arborei fetus alibi, atque injussa virescunt*
 ‘*Gramina. Nonne vides, croceos ut Tmolus odores,*
 ‘*India mittit ebur, molles sua thura Sabæi?*
 ‘*At Chalibes nudi ferrum, virosaque Pontus*
 ‘*Castorea, Eliadum palmas, Epeiros equarum?*
 ‘*Continuo has leges, æternaque fœdera certis*
 ‘*Imposuit natura locis.*’—*Georg. lib. i. lin. 54.*

Providence, by thus distributing the various articles suitable for the accommodation and comfort of man in different countries, has evidently provided for their mutual intercourse. In this respect, indeed, foreign trade is of far more importance than the home trade. There is infinitely less difference between the products of the various districts of the most extensive country, than there is between the products of different and distant countries; and the establishment of a territorial division of labour amongst the latter must, therefore, be proportionally advantageous.

‘As the same country is rendered richer by the trade of one province with another; as its labour becomes thus infinitely more divided, and more productive than it could otherwise have been; and as the mutual interchange of all those commodities which one province has and another wants, multiplies the comforts and accommodation of the whole, and the country becomes thus, in a wonderful degree, more opulent and more happy; so the same beautiful train of consequences is observable in the world at large, that vast empire, of which the different kingdoms may be regarded as the provinces. In this magnificent empire, one province is favourable to the production of one species of produce, and another province to another. By their mutual intercourse mankind are enabled to distribute their labour as best fits the genius of each particular country and people. The industry of the whole is thus rendered incomparably more productive; and every species of necessary, useful, and agreeable accommodation is obtained in much greater abundance, and with infinitely less expense.’ *Mills’ Commerce Defended*, p. 38.)

But to enable the advantages of foreign commerce to be rightly appreciated, it will be proper to consider it under the following heads, viz.—1st, Its influence in supplying us with useful and durable articles, of which we should

otherwise be wholly destitute: 2nd, Its influence in multiplying and cheapening the peculiar productions of our own country: 3rd, Its influence in making us acquainted with foreign discoveries and inventions, and in exciting invention by means of competition and example: and 4th, Its indirect influence upon industry, by increasing the sources of enjoyment.

I. With respect to the first of these influences, or the effect of commerce in furnishing every people with commodities not otherwise attainable, it is too obvious and striking to require any lengthened illustrations. Great Britain is as abundantly supplied with native products as most countries, and yet any one who reflects for a moment on the nature and variety of the articles we import from abroad, must be satisfied that we are indebted to trade for a very large part of our superior accommodations. Tea, sugar, coffee, wine, and spices; silk and cotton, the materials of our most extensive manufactures; gold and silver; and an endless variety of other highly important articles;—are sent to us by foreigners. And were the importation put an end to, what a prodigious deduction would be made, not from our comforts and enjoyments merely, but also from our means of supporting and employing labourers! If foreign commerce did nothing more than supply us with so many new products, it would be very difficult to overrate its value and importance.

II. But such is the beneficent influence of commerce, that while it supplies an endless variety of new productions, it multiplies and cheapens those that are peculiar to every country. It does this, by enabling each separate people to employ themselves, in preference, in those departments in which they enjoy some natural or acquired advantage, and by opening the markets of the world to their productions. When the demand for a commodity is confined to a particular country, as soon as it is supplied improvement is at a stand. The subdivision and combination of employments is, in fact, always dependant upon and regulated by the extent of the market. Dr. Smith has shewn, that by making a proper distribution of labour among ten workmen, in a pin manufactory, 48,000 pins might be produced in a day; and since his time the number has been nearly doubled. But had the demand not been sufficient to take off

this quantity of pins, the divisions and improvements in question could not have been made; and the price of pins would, in consequence, have been comparatively high. This principle holds universally. The most important manufacture carried on in Great Britain,—that of cotton,—is entirely the result of commerce. Supposing, however, that cotton wool had been a native production, we could never have made such astonishing advances in the manufacture had we been denied access to foreign markets. Notwithstanding the splendid discoveries in the machinery, and the perfection to which every department of the trade has been brought, the vast extent of the market has prevented its being glutted; and has stimulated our manufacturers and artisans to persevere, with unabated ardour, in the career of improvement. Our cotton mills have been constructed, not that they might supply the limited demand of Great Britain, but that they might supply the demand of the whole world. And in consequence of the extraordinary subdivision of labour, and the scope given to the employment and improvement of machinery, by the unlimited extent of the market, the price of cottons has been reduced to less, probably, than a fourth part of what it would have been had they met with no outlet in foreign countries. The hardware, woollen, leather, and other manufactures, exhibit similar results. The access their products have had to other markets has led to important improvements in their production; so that, as was previously stated, commerce not only supplies us with a vast variety of new and desirable articles, but it also cheapens the staple productions of the country, and renders them more easily attainable by the great mass of the people.

III. The influence of commerce in making the people of each country acquainted with foreign inventions and discoveries, and in stimulating ingenuity by bringing them into competition with strangers, is obvious and powerful.—Commerce distributes the gifts of science and art, as well as those of nature. It is the great engine by which the blessings of civilization are diffused throughout the world. It establishes a friendly intercourse among the people of all countries, and makes every one acquainted with the processes carried on, and the inventions made, in every corner of the

globe. Were any considerable improvement made in any important art, either in China or Peru, it would very speedily be understood and practised in England. It is no longer possible to monopolize an invention. The intimate communication that now obtains amongst nations renders any important discovery, wherever it may be made, a common benefit. The ingenious machine invented by Mr. Whitney, of the United States, for separating cotton wool from the pod, has been quite as advantageous to us as to the Americans; and the inventions of Watt and Arkwright have added to the comfort of the inhabitants of Siberia and Brazil, as well as of England. The genuine commercial spirit is destructive of all sorts of monopolies. It enables every separate country to profit by the peculiar natural powers and acquired skill of all the others; while, on the other hand, it communicates to them whatever advantages it may enjoy. Every nation is thus intimately associated with its neighbours. Their products, their arts, and their sciences, are reciprocally communicated; and the emulation that is thus excited and kept up, forces routine to give place to invention, and inspires every people with zeal to undertake, and perseverance to overcome, the most formidable tasks. It is not possible to form any accurate notions as to what would have been our state at this moment, had we been confined within our own little world, and deprived of all intercourse with foreigners. We know, however, that the most important arts, such as printing, glass-making, paper-making, &c., have been imported from abroad. No doubt we *might* have invented some of these ourselves; but there is not a shadow of a ground for supposing that we should have invented them all; and without foreign example and competition, we could hardly have carried any of them beyond the merest rudiments.

IV. The influence of commerce upon industry, by its increasing the number of desirable articles, though not quite so obvious perhaps as the influences already specified, is not less powerful and salutary. Industry is in no respect different from the other virtues, and it were vain to expect that it should be strongly manifested where it does not bring along with it a corresponding reward. In the early stages of society, before artificial wants have been introduced, and when men

are satisfied if they can avert the attacks of hunger, and procure an inadequate defence against the cold, industry is confined within the narrowest limits. And provided the mildness of the climate renders clothing and lodging of little importance, and the earth spontaneously pours forth an abundant supply of fruits, the inhabitants are immersed in sloth, and seem to place their highest enjoyment in being free from occupation. Sir William Temple, Mr. Hume, and some other sagacious inquirers into the progress of society, have been struck with this circumstance; and have justly remarked, that those nations that have laboured under the greatest national disadvantages have made the most rapid advances in industry.

But in civilized and commercial societies, new products and new modes of enjoyment, brought from abroad, or invented at home, stimulate the inhabitants to continued exertions. Their acquired tastes and the wants which civilization introduces, and custom and example render universal, become infinitely more numerous, and as urgent as the tastes or wants of those that are less advanced. The passion for luxuries, conveniences, and enjoyments, when once excited, becomes quite illimitable. The gratification of one desire leads immediately to the formation of another. 'The natural flights of the human mind are not from pleasure to pleasure, but from hope to hope.' The happiness of a civilized nation is not placed in indolence or enjoyment, but in continued exertion; in devising new contrivances to overcome new difficulties, in extending still further the boundaries of science, and increasing their command over luxuries and enjoyments. The remark of the Abbé Mably is as true as it is forcibly expressed:—'*N'est on que riche? On veut être grand. N'est on que grand? On veut être riche. Est-on et riche et grand? On veut être plus riche et plus grand encore.*'—(Œuvres, t. iv., p. 76.)

Without commerce this progress would never be realized. The commodities possessed by particular nations are but few, and may be attained with comparatively little labour. Generally speaking, a man may easily supply himself with corn, cloth, and beer; and if the utmost exertions of ingenuity, and the most laborious efforts of industry could only furnish additional quantities of those articles, they would very soon cease to be made. Men do not practise industry and

economy for their own sakes, but for the advantages that result from them; and the more consequently that these advantages are multiplied, that is, the greater the variety of wants they are made to supply, and of gratifications they are made to command, the greater will be the energy displayed in their prosecution. '*Le travail de la faim,*' as Raynal has well observed, '*est toujours borné comme elle; mais le travail de l'ambition croît avec ce vice (vertu ?) même.*'

And hence the true way to render a people industrious is to endeavour to inspire them with a taste for the luxuries and enjoyments of civilized life; and this will be always most easily done, by giving every facility to the cultivation of foreign commerce. The number of new articles, or, in other words, of new motives to stimulate, and new products with which to reward the patient hand of industry, is then prodigiously augmented. The home producers exert themselves to increase their supplies of disposable articles, that they may exchange them for those of other countries and climates. And the merchant, finding a ready demand for such articles, is stimulated to import a greater variety, to find out cheaper markets, and thus constantly to apply new incentives to the vanity and ambition, and consequently to the industry, of his customers. Every power of the mind and body is thus called into action; and the passion for foreign commodities—a passion which some shallow moralists have ignorantly censured—becomes one of the most efficient causes of industry, wealth and civilization.

But there are other considerations connected with this view of the subject that must not be passed over without observation. The establishment of a right of property in land is one of the foundations on which the structure of society mainly rests. Where this right is not established, there can be neither riches nor civilization; for no one would undertake to clear and cultivate the ground, unless he were well assured that he should be allowed peaceably to enjoy the fruits of his industry. The institution of the right of private property in land is not, however, enough to make its cultivation be carried to the highest point of which it is susceptible. Before this can be done, the cultivators must cease to be satisfied with simple fare. The soil is, in the great majority of cases, capable of furnishing supplies of food for a great many more individuals than can be profitably em-

ploied in its culture; but when the wants of the inhabitants are few, and easily supplied, its productive energies are not developed. Its occupiers are satisfied, if the crops they raise are sufficient to supply their own wants; and it would, indeed, be a contradiction to suppose that they should trouble themselves about raising corn of which they could make no use. During the middle ages, when commerce was comparatively little cultivated, the great landed proprietors kept immense bodies of retainers, and the necessity of providing supplies for their support occasioned an extension of cultivation that would not otherwise have taken place. But the introduction of commerce in more modern times, and the consequent growth of arts and manufactures, has led to a totally different state of things. The barbarous and unwieldy pomp of the middle ages has been supplanted by elegance and refinement. Instead of wasting their fortunes on crowds of idle and disorderly vassals, the great lords expend them upon the products of industry; and such is the vast variety of these products in every commercial country, that the richest individuals can never be without a motive to augment their fortunes, seeing the endless gratifications they may be applied to procure. The effects of this change have been alike salutary and extraordinary. Those who, of old, would have been the servile dependants of some feudal chief, are now industrious, and perhaps opulent manufacturers and merchants; and though they have no share in the ground, nor any thing to do with its cultivation, they are regularly and liberally supplied with its produce. The population has been quadrupled, or more, and yet every one lives in far greater plenty and comfort. The occupiers of the soil, who, during the age of the Edwards and the Henrys, were satisfied if they could pay a trifling rent, and procure a rude and meagre subsistence for themselves, have had the standard of enjoyment elevated. They have acquired a taste for those comforts and gratifications that were formerly enjoyed by their masters only, and to acquire them they exert all their energies, and extort from the ground the utmost it can be made to produce, increasing a hundred-fold the supplies of food.

The admirers of simplicity, or rather of rusticity, may perhaps urge, that the happiness of mankind is not increased by this never-ceasing pursuit of new in-

ventions and additional wealth; that habit reconciles individuals to the state in which they are accustomed to live; and that the Irishman or the Greenlander, when abundantly supplied with potatoes or fish, is as cheerful and happy as the lordly inhabitant of the Palais Royal, or of Belgrave-square. We may observe, however, that none but rich and refined countries can ever be secure against the devastations of famine, which frequently sweep off almost the entire population of semi-barbarous nations; and it is in such countries only that those speculative and elegant studies which expand and liberalize the mind can be prosecuted. But whether the actual attainment of wealth or of distinction of any sort be favourable or unfavourable to happiness, its *pursuit* is eminently congenial to the nature of man. The wish to improve our condition comes with us into the world, and only quits us when we cease to exist. The career of enterprise and ambition is uniformly entered upon with the greatest keenness where there is most prosperity and freedom, and is abandoned only in those unfortunate countries where distress and tyranny weigh down all the moral energies. When the end is compassed, when the object of our exertions has been attained, it may perhaps be found not worth the trouble of acquiring, or, though prized at first, the enjoyment may pall upon the sense; but this, instead of discouraging, invariably tempts to new efforts; so that the pursuit of even imaginary conveniences,—of happiness never to be realized,—is productive of an intensity of pleasure and gratification, not attainable in the apathy of a fixed or permanent situation. 'We are ever ready,' says a profound and eloquent writer already quoted, 'to own, that labour is prescribed to man,—that he is destined to earn every blessing by the sweat of his brow, by the labour of his hands, or the exertion of his mind; but we do not always perceive that these labours and exertions are themselves of principal value, and to be reckoned among the foremost blessings to which human nature is competent; that mere industry is a blessing apart from the wealth it procures; and that the exercises of a cultivated mind, though considered as means for the attainment of an external end, are themselves of more value than any such end whatever.'—(*Ferguson's Principles of Moral and Political Science*, vol. i. p. 250.)

It is therefore evident, as well from what has now been stated, as from what was remarked under the previous heads, that those who imagine that the benefit which foreign commerce confers on a country like Great Britain or France, consists in its adding to the number of conveniences and enjoyments, entirely overlook some of its most important effects. The tastes which grow out of it become the most powerful incentives to industry, and occasion a vast increase of the quantity of corn and cattle. The *species* of means by which commerce produces the effects we have now endeavoured to trace—by which it rouses the indolent to exertion, and gives new vigour to those that are already industrious—is a consideration of inferior importance. The excitement of new wants is the grand object: for, how trifling soever the objects by which they are excited, the spirit of industry and invention diffused throughout society, by the desire to gratify them, is of inestimable value. It is it that carries society forward. Were the desires of man limited, the moment they were supplied, invention would be at an end, the further advance of the race would be for ever arrested, apathy would usurp the place of activity, and life would lose all its charms. 'Withdraw the occupations of men, terminate their desires, existence is a burden, and the iteration of memory is a torment.'

Dr. Paley had a clear perception of the indirect influence of commerce and the arts upon industry. 'It signifies nothing,' says he, 'as to the main purpose of trade, how superfluous the articles which it furnishes are,—whether the want of them be real or imaginary,—whether it be founded in nature or in opinion, in fashion, habit, or emulation; it is enough that they be actually desired and sought after. Flourishing cities are raised and supported by trading in tobacco; populous towns subsist by the manufactory of ribands. A watch may be a very unnecessary appendage to the dress of a peasant, yet, if the peasant will till the ground in order to obtain a watch, the true design of trade is answered; and the watchmaker, while he polishes the case, or files the wheel of his machine, is contributing to the production of corn as effectually, though not so directly, as if he handled the spade, or held the plough. Tobacco is an acknowledged superfluity, and affords a remarkable instance of the caprice of

human appetite; yet, if the fisherman will ply his net, or the mariner fetch rice from foreign countries, in order to procure to himself this indulgence, the market is supplied with two important articles of provision, by the instrumentality of a merchandise which has no other apparent use than the gratification of a vitiated palate.'—(*Moral Philosophy*, cap. 11.)

The boundless extent and variety of the desires excited by the cultivation of commerce and the arts, combined with the tendency of population to increase proportionally to the means of subsistence, are the real causes of the advancement of mankind in civilization. 'Man never is, but always to be blest.' The most astonishing inventions do not lessen the demand for them. The increased facilities of subsistence and of enjoyment which they afford add to the population, which speedily expanding to the limits of subsistence, how widely soever these may be extended, renders the necessity for fresh inventions as urgent as ever. Society is thus continually pressed forward;—the discoveries of one age become the property of those that follow, and in their hands lead to new displays of the inventive faculty. But such is the nature of the human mind, that no amount of fortune can ever fully satisfy its cravings; and such is the strength of the principle of increase in the species, that whatever be the supply of useful and desirable products in any country, and whatever be the state of the arts practised in it, the great bulk of the population must always 'eat their bread in the sweat of their brow;' and are sure to feel, even in the most advanced periods, the full force of all those springs which at a remoter epoch, when commerce began to be established, impelled their forefathers to industry, and prompted them to contrive and accumulate.

Hitherto we have considered foreign commerce in a general point of view only, without inquiring into the various modes in which it is conducted, and through which it produces its effects. Neither, we confess, does this inquiry seem to us of much consequence; provided the results of the different modes in which we carry on our intercourse with other nations be substantially the same, their elucidation can only be of

real importance to those engaged in them, and cannot materially interest the public. But Dr. Smith, and many other writers on commercial subjects, do not admit that the different sorts of commerce maintained with the foreigner are equally advantageous. Dr. Smith, to whom only it is of any use to refer, contends, that a direct foreign trade, or the sending of commodities direct to a foreign country, and importing its products in return, is the most advantageous; that 'a round-about trade of consumption,' or that carried on by first buying from one set of foreigners, and selling to another set, some article of produce, is in the next degree advantageous; and that the 'carrying trade,' or the employment of ships and men in carrying the goods of foreigners from place to place, is the least advantageous of any. It is easy, however, to shew, that these distinctions rest on no good foundation. The only reason advanced by Dr. Smith in support of his opinion is, that in a round-about trade of consumption, or in the carrying trade, the capitals employed are longer of being returned. But had he reflected a little, he could hardly have failed to perceive that this is really of no importance: what all merchants, or rather all individuals look to, is the *rate of net profit* that may be made by engaging in different businesses; and they engage in that which they suppose, all things being taken into account, will yield most profit. Supposing that the customary rate of profit is 10 per cent., those engaged in businesses in which the capital is turned over ten times a-year will, at an average, realize a profit of 1 per cent. upon each transaction; while those engaged in businesses in which the returns are more distant, will realize a proportionally larger amount of profit when the returns are made. If, for example, the capital employed by one individual were only returned once a-year, it would, under the circumstances supposed, yield 10 per cent. in a single payment; and were it returned only once in two or three years, it would at once produce 20 or 30 per cent. Inasmuch, however, as it is by the rate of net profit that different businesses yield, that we are always to judge which is most, and which is least advantageous; and as Dr. Smith has himself demonstrated, in another part of his great work, that no branch of industry can continue to be prose-

cuted in which profits are depressed below the common level, he has really demonstrated the fallacy of the statements we have now been considering.

Most treatises on commerce and political economy (that of M. Say among others), contain estimates of the comparative extent and advantageousness of the home and foreign trade. But these estimates are rarely bottomed on any sound principle, and generally lead to the most unfounded conclusions. It is obvious that the amount of the commercial transactions carried on amongst the inhabitants of an extensive country, must very greatly exceed those which they carry on with foreigners. This, however, is not, as has been commonly supposed, sufficient to determine the question, which of them is most, or which is least, advantageous? Commerce is not directly productive, nor is the good resulting from it to be measured by its immediate effects. Besides distributing the various productions of art and industry in the best manner, it enables the divisions of labour to be introduced and perfected. When we send cloth or hardware to Portugal for wine, or to Brazil for sugar, we give what is as valuable as that which we receive; and yet both parties gain largely by the transaction: for we get the wine and the sugar for what it took to produce them in countries that are peculiarly fitted for their growth; and the foreigners are supplied with cloth and hardware for what these productions cost in a country where manufacturing industry has been carried to the highest pitch of improvement. Were this intercourse put an end to, the territorial division of labour resulting from it would simultaneously cease; and while we should be obliged either to make a shift without wine or sugar, or to produce them, or substitutes for them, at home, at a hundred or a thousand times the expense it now takes to fetch them from abroad, the Portuguese and Brazilians would be exposed to similar difficulties in getting cloth or hardware. It is clear, therefore, that in estimating the comparative advantageousness of the home and foreign trades, it will not do to look merely at the number of transactions in each. The real question is, which occasions the greatest subdivision of employments, and gives the most powerful spur to industry? This, however, is a question that does not, per-

haps, admit of any very satisfactory solution. Without some species of home trade no division of employments could ever have been made, and man must have continued in ignorance and barbarism. And it is, therefore, true to say, that the home trade is the most indispensable to the rise and early progress of the arts. But those who consider the influence of foreign commerce in making man acquainted with an infinity of useful and desirable products, of which he must otherwise have been ignorant, in diverting the industry of every country into the most profitable channels, in improving every process carried on at home, by opening the markets of the world to its produce, and in exciting the desires, and stimulating the industry and invention of all classes, will not hesitate to admit that it has principally contributed to advance society to the high state of improvement to which it has attained.

Dr. Smith has also contended for the superior productiveness of the home trade on different, though, as it appears to us, not more tenable grounds than those now examined.

'The capital,' says he, 'which sends Scotch manufactures to London, and brings back English corn and manufactures to Edinburgh, necessarily replaces, by every such operation, two British capitals, which had both been employed in the agriculture or manufactures of Great Britain. The capital employed in purchasing foreign goods for home consumption, when this purchase is made with the produce of domestic industry, replaces too, by every such operation, two distinct capitals; but one of them only is employed in supporting domestic industry. The capital which sends British goods to Portugal, and brings back Portuguese goods to Great Britain, replaces, by every such operation, only one British capital; the other is a Portuguese one. Though the returns, therefore, of the foreign trade of consumption should be as quick as those of the home trade, the capital employed in it will give but one half of the encouragement to the industry of productive labour of the country.'—(*Wealth of Nations*, vol. ii. p. 158.)

Now it will be observed, that Dr. Smith does not say that the importation of foreign commodities has any tendency to force capital abroad; and unless it do this, it is plain that the statement in the above paragraph is quite inconsistent

with the fundamental principle he has elsewhere established, that the productive industry of every country must always be proportioned to the amount of its capital. Suppose, for the sake of illustration, that the case put by Dr. Smith actually occurs, that the Scotch manufactures are sent to Portugal: it is obvious, that if the same demand continue in London for Scotch manufactures as before they began to be sent abroad, an additional capital, and an additional number of labourers, will be required to furnish supplies for both the London and Portuguese markets. In this case, therefore, instead of the industry of the country sustaining any diminution from the export of the Scotch manufactures to a foreign country, it would evidently be augmented, and a new field would be opened for the profitable employment of stock. But if at the same time that the Scotch began to export manufactured goods to Portugal, the Londoners also found out a foreign market where they could be supplied at a cheaper rate with the goods they had previously imported from Scotland, all intercourse between Scotland and London would immediately cease, and the home trade would be changed for a foreign trade. It is obvious, however, that this change could not occasion any embarrassment, and that it would not throw a single individual out of employment. On the contrary, a fresh stimulus would be given to the manufactures, both of Scotland and the metropolis, inasmuch as nothing but their being able to dispose of their produce to greater advantage could have induced the merchants to change the home for a foreign market. The fact is, that when a home trade is changed for a foreign trade, an additional capital belonging to the nation with which it is carried on enters into it; but there is no diminution whatever, either of the capital or industry of the nation which has made the change. So far from this, they are plainly diverted into more productive channels, and are employed with greater advantage. (For some further remarks on this subject, see Ricardo's *Principles of Political Economy*, 3rd edit. p. 419.)

III. The *Colony Trade* forms the third great department into which commerce is usually divided.

Colonies are establishments formed in foreign countries by bodies of men, who voluntarily emigrate from, or are forcibly sent abroad by, the mother

country. Various motives have, at different periods, led to the formation of colonies. Sometimes, as in the case of most of the Greek colonies of antiquity, they were formed by citizens driven from their native country by the violence of political factions: sometimes, as in the case of the Roman colonies, they were formed for the purpose of bridling subjugated provinces; the latter, indeed, were a species of camps or military stations, forming, as it were, the advanced posts of that mighty army which had its head-quarters at Rome. And sometimes, again, as in the case of the Phœnician colonies, and of most of those established in modern times, they have been formed for commercial purposes, or in the view of enriching the mother country, by opening new markets from which she might, if she chose, exclude foreigners.

The nature of the connexion that has existed between colonies and their mother countries has been exceedingly various. Most of the Greek colonies, being founded by private adventurers, who received no assistance from the government of the parent state, were really independent; the duties which they owed to their metropolis being such only as are due to kinsmen and friends, and not those due by subjects to their rulers. The Roman colonies, on the other hand, being founded by the state for an important political purpose, always maintained an intimate connexion with and dependence upon Rome. They formed the great bulwarks of the empire; nor was the conquest of any province ever supposed to be completed till colonies had been established in it, and roads had rendered it accessible to the legions. The colonies established for commercial purposes have generally been subjected to such regulations as were deemed most for the advantage of the parent state. Their growth has thus, in many instances, been retarded; and they have been rendered less serviceable to their founders than they would have been had they been treated with greater liberality.

A colony retained in a state of dependence upon the mother country can be regarded in no other light than as one of her provinces. The trade carried on between them is really a branch of the home trade; and the remarks made upon the latter are all applicable to it. The only really interesting inquiry with respect to commercial colonies is that

which has for its object to investigate the nature and influence of the regulations to which their trade is subjected; and upon this we shall enter in a subsequent part of this treatise.

CHAPTER III.

Means by which Commerce may be facilitated—Money and Banks—Weights and Measures—Roads and Canals.

To enumerate the various means by which commercial operations may be facilitated, would be an endless task. It would, in fact, embrace an examination of everything contributing to render property secure, to simplify the law with respect to contracts, to soften the animosities that exist amongst nations, to render individuals alive to their real interests, &c. But there are certain institutions and contrivances which have a peculiarly commercial character, and without which commerce could not be carried on to any considerable extent. Money and banks, weights and measures, roads and canals, commercial treaties, &c. are of this description; and we shall now subjoin a few remarks with respect to them.

I. *Money and Banks.* Without the use of money, of some sort or other, commercial operations must have been greatly embarrassed. Innumerable difficulties would occur in attempting to carry on trade by barter. A., for example, has a quantity of wheat which he wishes to dispose of for a quantity of cloth belonging to B.; but the latter being already sufficiently supplied with wheat, no exchange can take place between them. In such a case A. would have to learn what commodity B. would be inclined to accept in exchange for his cloth; and having acquired this information he would next have to seek out some third person willing to part with the equivalent demanded by B. in exchange for wheat. It might not, perhaps, be possible for A. to get his purpose effected so early as has here been supposed, or without negotiating other subsidiary exchanges. What has been stated is, however, sufficient to evince the extreme difficulty of carrying on commerce in this way.

Money was introduced to obviate these difficulties, which it has done very completely. Every one being desirous to have the means of readily acquiring whatever he wanted, would endeavour to exchange a portion of his own pro-

duce for that which he observed was most in demand, and which passed most readily from hand to hand. By degrees this commodity would come to be used as a common medium of exchange, as a standard by which to measure the value of others, and as the equivalent given for them; in a word, it would become money.

An immense variety of commodities have been used as money in different countries and stages of society. But in civilized countries the precious metals have been uniformly used as such, to the exclusion of every other, except what is merely subsidiary to them. They have been indebted for this distinction, not to any law or agreement amongst nations, but to their qualities—their durability, divisibility, sameness, great value in small bulk, &c. Their employment as money dates from a very remote epoch. At first they were in an unfashioned form, in bars, ingots, or dust. They were speedily, however, formed into coins, or impressed with a stamp indicating their weight and fineness. Their use in the ordinary transactions of life was thus greatly facilitated; and they became the most convenient instruments that can be imagined for effecting exchanges, and gave an extraordinary stimulus to commerce.

It is, however, material to observe, that the use of coined money does not change the principle on which exchanges were previously conducted. The coinage saves the trouble of weighing and assaying gold and silver, but it does nothing more. It declares the weight and purity of the metal in a coin; but the *value* of that metal or coin is, in all cases, determined by those principles which determine the value of other things, and would be as little affected by being recoined with a new denomination as the burden of a ship by a change of her name.

Inaccurate notions with respect to the influence of coinage seem to have given rise to the opinion, so long entertained, that coins were merely the *signs* of values! But it is clear that they have no more claim to this designation than bars of iron or copper, sacks of wheat, or any other commodity. They exchange for other things, because they are desirable articles, and are possessed of real intrinsic value. A draft, check, or bill, may not improperly, perhaps, be regarded as the sign of the money to be

given for it; but that money is nothing but a commodity; it is not a sign, it is the thing signified.

The term *standard* is used to designate the purity and weight of coins, that is, the fineness of the metal of which they are made, and the quantity of it contained in them.

A pound troy, or 12 oz. of the metal of which English silver coins are made, contains 11 oz. 2 dwts. pure silver, and 18 dwts. alloy. This pound is coined into 66 shillings, so that each shilling contains 80.727 grains fine silver, and 87.27 grains standard silver; and the *money pound*, consisting of 20 shillings, contains 1614.545 grains pure silver, and 1745.454 grains standard silver. From 1600 down to 1816, the pound weight of standard silver bullion was coined into 62 shillings. All the English silver coins have been coined out of silver of 11 oz. 2 dwts. fine, from the Conquest to this moment, except for the short period of sixteen years, from the 34th Henry VIII. to the 2nd Elizabeth.

The fineness of gold is estimated by carat grains equivalent to $2\frac{1}{2}$ dwts. troy; gold of the highest degree of fineness, or pure, being said to be 24 carats fine. The purity of our present gold coins is 11 parts fine gold and 1 part alloy. The sovereign, or twenty-shilling-piece, contains 113.001 grains fine gold, and 123.274 grains standard gold. The pound troy of standard gold is coined into 46 sovereigns and $\frac{8}{9}$ ths of a sovereign, or into 46*l.* 14*s.* 6*d.* The mint or standard price of gold is, therefore, said to be 46*l.* 14*s.* 6*d.* per pound troy, or, 3*l.* 17*s.* 10½*d.* an ounce.

The alloy in coins is reckoned of no value: it is allowed in order to save the trouble and expense that would be incurred in refining the metals to their highest degree of purity; and because, when its quantity is small, it renders the coins harder, and less liable to be worn or rubbed. Were the quantity of alloy considerable, it would lessen the splendour and ductility of the metals, and would add too much to the weight of the coins.

Originally, the coins of all countries seem to have had the same denominations as the weights commonly used in them; and contained the exact quantity of the precious metals indicated by their name. Thus, the *talent* was a weight used in the earliest period by the Greeks; the *as* or *pondo* by the Romans; the *livre* by the French; and the *pound* by

the English and Scotch; and the coins originally in use in Greece, Italy, France, and England, bore the same names, and weighed precisely a talent, a pondo, a livre, and a pound. The standard has not, however, been preserved inviolate, either in ancient or modern times. The necessities of governments, and the unfounded notion, so generally diffused, that coins derived their value rather from the coinage than from the quantity of metal contained in them, has everywhere led to their degradation. Coins have been less enfeebled in England than in any other country; but even here the quantity of silver in a pound sterling is less than the *third* part of a pound weight, the quantity it contained in 1300. At the union of the crowns, in 1600, the coins current in Scotland contained the *twelfth* part only of the silver they contained in 1296. In France, the livre current in 1789 contained less than *one sixty-sixth* part of the silver implied in its name, and which it had contained previously to 1103. In Spain, and some other countries, the degradation has been carried even further.

When two metals, as gold and silver, are formed into coins, and may be used indifferently, as legal tenders, in all payments, the proportion which the one bears to the other must be fixed by authority. But how accurately soever this proportion may be made to correspond with the real value of the metals, when it is fixed, it will not continue to be accurate for any considerable period. Each of the metals is liable to have its value affected by circumstances which may not affect the other; and whenever any variation of this sort takes place, it becomes the interest of all debtors to use that metal only which is *overvalued*, so that it becomes the only currency. In the French mint silver was for a long period overvalued, as compared with gold; and in England gold was for a long period overvalued, as compared with silver: and hence the reason that silver coins form almost the sole currency of France, and gold coins that of England. In this country a new system was, however, adopted in 1816. Gold coins were then declared to be the only legal tender in all payments of more than 40*s.*: and the weight of the silver coins being, as has been already remarked, at the same time diminished, they became a merely subsidiary currency. This system has been found to answer very well.

Copper coins are only legal tender to the extent of one shilling in any one payment: they are, in respect of silver, what silver coins now are in respect of gold.

(Tables are added to this treatise, giving a succinct view of the variations in the weight, fineness, and sterling value of the English coins at different periods; and of the value of the principal foreign coins now in circulation.)

But notwithstanding the precious metals are in many respects admirably fitted to serve as a medium of exchange, they have two very serious drawbacks—their cost, and the difficulty and expense of carrying them from place to place. If the currency of Great Britain consisted only of gold, it would amount to at least sixty millions of sovereigns; and the expense attending such a currency, allowing only $\frac{1}{4}$ per cent. for wear and tear and loss of coins, could not be reckoned at less than 3,250,000*l.* a-year. It is obvious, too, that were there nothing but coins in circulation, the conveyance of large sums from place to place, to discharge accounts, would be a very laborious process, and that even small sums could not be conveyed without considerable difficulty; and hence it is that most commercial and highly civilized nations have endeavoured to fabricate a portion of their money of less costly materials, and have resorted to various devices for economizing the use of coin. Of the substitutes for coin hitherto suggested, paper is by far the most important, and is in all respects the least objectionable. Instead of discharging their debts by a payment of the precious metals, individuals, on whose solvency the public may rely, pay them by giving a bill or draft for the sum, payable in coin at sight or at so many days after date; and as this bill or draft passes currently from hand to hand as cash, it performs all the functions of coin, while it saves its expense to the public. A sense of the advantages that might be derived from the circulation of such bills or drafts led to the institution of *banks* for their regular issue. A banker, on being applied to for a loan, does not make the advance in gold or silver, but in his own notes; and while these serve equally well as cash to the borrower, the issuer derives the same rate of interest from them that he would have derived from an advance of cash; his profits consisting of the excess of interest derived from the notes

he has issued, over the interest of the cash or unproductive stock he is obliged to keep in his coffers to meet the demands of the public for payment of his notes, and the expenses of his establishment. Besides this sort of banks, there are also banks of deposit, or banks for keeping merchants' money. A merchant using a bank of this sort makes all his considerable payments by drafts upon his bankers, and sends all the bills due to him to them to be presented, and noted if not duly paid. By this means he saves the trouble and expense of keeping a quantity of unemployed money at home, of receiving coins or notes that are not genuine, and of making any mistakes with respect to the presentation of due bills; and in consequence of the saving of money that is thus effected, a much less quantity serves for the demand of the public.

But the great advantage of banks, in a commercial point of view, consists in the facility they afford for making payments at distant places, and for the negotiation of bills of exchange. Many of the banking companies, established in different districts, have a direct intercourse with each other; and they have all correspondents in London. Hence, an individual residing in any part of the country, who may wish to make a payment in any other part, however distant, may effect his object by applying to the bank nearest to him. Thus, suppose A, of Penzance, has a payment to make to B, of Inverness. To send the money by post would be hazardous, and if there were fractional parts of a pound in the sum, it would hardly be practicable to make use of the post. How, then, will A manage? He will pay the sum to a banker in Penzance, and his creditor in Inverness will receive it from a banker there. The transaction is very simple: the Penzance banker orders his correspondent in London to pay to the correspondent of the Inverness banker the sum in question on account of B; and the Inverness banker, being advised in course of post of what has been done, pays B. A small commission, charged by the Penzance banker, and the post-ages, constitute the whole expense. There is no risk whatever; and the affair is transacted in the most commodious and cheapest manner.

Bills of exchange are most commonly used in the settlement of transactions between merchants residing in different countries; but they are also frequently

used among merchants of the same country. They are merely orders addressed by a creditor to a debtor, directing the latter to pay his debt to some specified party in his vicinity. But notwithstanding this simplicity, their introduction has given unusual facilities and security to all sorts of mercantile transactions, and has been productive of much advantage to all classes. We borrow from the *British Merchant* (iii., p. 97,) the following exposition of the mode in which bills of exchange are employed to adjust debts in different places:—

‘Suppose a tenant in Wiltshire has to pay 100*l.* of rent to his landlord in London; and that the woollen-draper in London has to pay the like sum to the clothier in Wiltshire: both these debts may be paid, without transmitting one farthing from the one place to the other, by bills of exchange, or by exchanging one debtor for the other; thus, the tenant may receive his landlord's order to pay 100*l.* to the clothier in the country; and the woollen-draper may receive his clothier's order to pay the like sum to the landlord in town. These two orders are properly called bills of exchange; the debts are exchanged by them; that is, the woollen-draper in town, instead of the tenant in the country, is become debtor to the landlord; and the tenant in the country, instead of the woollen-draper in town, is become debtor to the clothier; and when these orders are complied with, the two debts between London and the country are discharged without sending one shilling in specie from the one to the other.’

The debts due by merchants residing in one country to those of another are, for the most part, discharged in the same manner. The transmission of money from place to place is thus almost wholly avoided; and the largest payments are effected without the least risk and almost without any expense.

II. *Weights and Measures.* The employment of some sort of standards by which to measure and compare the specific gravities and magnitudes of different articles, must, at a very early period, have been seen to be indispensable to the easy and accurate arrangement of commercial transactions. The earliest standards of lineal measure seem to have been, for the most part, derived from portions of the human body: as the cubit, or length of the arm from the elbow to the tip of the middle

finger; the foot; the *ulna*, arm, or yard; the span; the digit, or finger; the fathom, or space from the extremity of the one hand to the extremity of the other when they are both extended in opposite directions; the pace, &c.—Larger spaces were estimated by measures formed out of multiples of the smaller ones; and sometimes in days' journeys, or by the space which it was supposed a man might travel in a day, using a reasonable degree of diligence.

But lineal measures can only be used to determine the magnitude of surfaces or of solid bodies. The magnitude of bodies in a liquid or fluid state has to be determined by what are termed measures of capacity. It is probable that, in the infancy of society, shells, or other hollow instruments afforded by nature, were used as standards. But the inaccuracy of the conclusions drawn from referring to them must soon have become obvious; and it was early discovered that, to obtain an accurate measure of liquids, nothing more was necessary than to construct an artificial measure, the dimensions, and consequently the capacity of which should be determined by the lineal measures previously adopted by the society.

The determination of the specific gravity or weight of different bodies supposes the invention of the balance—an instrument of the highest antiquity. It appears probable that cubes of some common lineal measure, as a foot, or the fraction of a foot, formed of copper, lead, iron, or some other metal, were early used as standards of weight. In many countries, however, grains of corn seem to have formed the original standard. Hence in this, as well as in several other nations, the lowest denomination of weight is a grain; and thirty-two of these grains are directed, by the ancient statute *de compositio mensurarum*, to compose a penny-weight, twenty of which make an ounce, twelve ounces a pound, and so upwards.

The extension of commercial transactions must speedily have disclosed the importance of having weights and measures determined by some *fixed* standard. But as the size of the different parts of the human body differ in different individuals, it is necessary to select some durable article, a metallic rod, for example, of the length of an average foot, cubit, &c., and to make it the standard with which all the other feet, cubits, &c., used in mensuration, should

correspond. These standards have been preserved with the greatest care; at Rome they were kept in the temple of Jupiter; and among the Jews, their custody was entrusted to the family of Aaron.

In England, our ancient historians tell us, that a new, or rather a revised standard of lineal measure was introduced by Henry I., who ordered that the ulna, or ancient ell, which corresponds to the modern yard, should be made of the exact length of his own arm, and that the other measures of length should be raised upon it. This standard has been maintained without any sensible variation. In 1742, the Royal Society had a yard made, from a very careful comparison of the standard ells or yards of the reigns of Henry VII. and Elizabeth, kept at the Exchequer. In 1758, an exact copy was made of the Royal Society's yard; and this copy having been examined by a Committee of the House of Commons, and reported by them to be equal to the standard yard, it was marked as such; and this identical yard is declared, by the Act 5 Geo. IV., cap. 74, to be the standard of lineal measure in Great Britain.

The confusion and inconvenience attending the use of weights and measures of the same denomination, but of different magnitudes, was early remarked; and there is hardly a country in which efforts have not been made to reduce them to the same uniform system. Numerous acts of parliament have been passed having this object in view, and enjoining the use of the same weights and measures under very severe penalties. But, owing to the inveteracy of ancient customs and the difficulty of enforcing the new regulations, these statutes have always had a very limited influence, and the greatest diversity has continued to prevail, except in lineal measures. But the statute 5 Geo. IV., cap. 74, seems to have at length effected what former statutes had failed of accomplishing. It is, perhaps, indebted for its success in this respect to the limited nature of the changes which it introduced. It made no alteration in the lineal measures previously in use; neither did it affect the previously existing system of weights. The measures of capacity are the only ones which it has changed. The wine gallon formerly contained 231 cubic inches, and the ale gallon 282; but these have been both

superseded by the imperial gallon, which contains 277 $\frac{1}{4}$ cubic inches.

As the standards adopted in most countries have been in a great degree arbitrary, it has long been the opinion of scientific men that, to construct a more perfect system of weights and measures, some natural and unchangeable basis should be adopted. It has, indeed, been contended by Paucton and Bailly, that the ancient measures had been deduced from a basis of this sort; and that the *stadium* always formed an aliquot part of the earth's circumference, that part differing amongst different nations and authors. But no learning or ingenuity can induce any reasonable person to believe what is so obviously incredible. The ancients had no means of determining the earth's circumference with anything like the accuracy required to render it the great unit of a system of measures; and, what is equally decisive, no ancient author ever makes the slightest allusion to any such standard.

In more modern times, however, the idea of seeking for a unit of measure and weight in some unchangeable natural object has been practically carried into effect. The standards that have been usually proposed for this purpose have been some aliquot part of the quadrant of the meridian, or the length of a pendulum vibrating seconds in some given latitude. The latter has been in so far adopted into the existing system of weights and measures, established by the Act of 1824, that the length of the standard yard, as compared with that of a pendulum vibrating seconds in the latitude of London, is determined to be in the proportion of 36 inches to 39 $\frac{1383}{10000}$ inches.

The new metrical system, established in France subsequently to the Revolution, is founded on the measurement of the quadrant of the meridian, or of the distance from the pole to the equator. This distance having been determined with the greatest care, the *ten-millionth* part of it was assumed as the *metre*, or unit of length, all the other lineal measures being multiples or sub-multiples of it in decimal proportion. The metre is equal to 39·3708 English inches; the gramme, or unit of weight, is a cubic centimetre, or the one-hundredth part of a metre of distilled water, of the temperature of melting ice, and weighs 15·434 grains Troy; the *litre*, or unit of the measures of

capacity, is equal to 61·028 cubic inches. In 1812, the scientific precision of this system was so far relaxed, that the weights and measures founded upon the metre are allowed to be divided into halves, quarters, eighths, &c.

(See the Tables annexed to this Treatise, for an account of the values of the principal weights and measures of foreign countries.)

III. *Roads, Canals, &c.*—Next to the introduction of money, and weights and measures, the formation of good roads, bridges, and canals, gives the greatest facility to commerce, and contributes more powerfully, perhaps, than anything else to the progress of improvement. They have been denominated national veins and arteries; and the latter are not more indispensable to the existence of individuals, than improved communications are to a healthy state of the public economy. It were vain to attempt to point out in detail the various advantages derived from the easy means of communication that exist in Great Britain. There is not a single district that is not indebted to others for a large part of its supplies, even of some of the bulkiest commodities. Besides the coal, metals, minerals, timber, corn, &c., conveyed from one part of the empire to another by sea, immense quantities are conveyed from place to place in the interior, by roads and canals; and every improvement effected in the means of conveyance has obviously the same effect upon the cost of commodities that have to be conveyed, as an improvement in the methods by which they are raised or manufactured.

Wherever the means of internal communication are deficient in a country, the inhabitants must unavoidably disperse themselves over its surface. Cities were originally founded by individuals congregating more, perhaps, for the purpose of national defence and protection, than for any other cause. But in countries where good government is established, and property is secure, men resort to cities only from a sense of the advantages they afford. The scale on which business is there conducted presents facilities that cannot be elsewhere afforded for making a fortune; and the extent to which the subdivision of employments is carried opens a field for the exercise of all sorts of talent; at the same time that it improves and perfects all sorts of arts, whether subservient to industrious or scientific pursuits,

or to those of pleasure and dissipation. It is this that attracts the aspiring, the industrious, the gay, and the profligate, to cities,—that fills them with the best and the worst part of the species. The competition that takes place in a great town,—the excitement that is constantly kept up, the collision of so many minds brought into immediate contact, and all endeavouring to outstrip each other in their respective departments, develops all the resources of the human mind, and renders a great city a perpetually radiating focus of intelligence and invention. There are, however, considerable clogs upon the continued increase of cities. The food and fuel made use of by the inhabitants, and the raw products on which their industry is to be exerted, must all be brought from the country; and according as the size of the city increases, the distances from which its supplies must be brought become so much the greater, that ultimately the cost of their conveyance may be so great, as to balance or more the peculiar advantages resulting from a residence in town. Hence the impossibility of a large, or even a considerable city existing anywhere without possessing considerable means of communication either with the surrounding country, or with other countries; and hence, too, the explanation of the apparently singular fact, of almost all large cities having been founded on or near the sea, or a navigable river. Had London been an inland town, fifty miles from the shore, it is abundantly certain that she could not have attained to one-third her present size; but the facilities afforded by her admirable situation on the Thames, for the importation of all sorts of produce from abroad, as well as from other parts of England, will enable her, should her commerce continue to prosper, to add to her colossal magnitude for centuries to come.

But all towns cannot be founded on the sea-coast or the banks of navigable rivers; and the growth of those in inland situations must, in all cases, depend on their means of communication with the surrounding country. Without our improved roads and canals, the great inland manufacturing towns with which England is studded, such as Manchester, Leeds, Birmingham, Sheffield, Bolton, Preston, &c., could not exist. They enable the inhabitants to obtain the rude products of the soil and the mines, almost as cheap as if they lived in country villages. There is thus nothing, or next

to nothing, to detract from the advantages which the inventive and enterprising artisan may expect to realize from resorting to these great hives of industry. And, owing to the gigantic scale on which all sorts of industry are conducted in them, the scope afforded for the employment of the most powerful machines, and the appropriation of particular sets of workmen to every separate process, however minute, manufacturing industry is carried to a degree of perfection that almost exceeds belief.

The influence that the growth of a large town has upon agriculture is great and striking. 'In the neighbourhood,' says Dr. Paley, 'of trading towns, and in those districts which carry on a communication with the markets of trading towns, the husbandmen are busy and skilful, the peasantry laborious; the land is managed to the best advantage, and double the quantity of corn or herbage (articles which are ultimately converted into human provision) raised from it, of what the same soil yields in remoter and more neglected parts of the country. Wherever a thriving manufactory finds means to establish itself, a new vegetation springs up around it. I believe it is true, that agriculture never arrives at any considerable, much less at its highest, degree of perfection, when it is not connected with trade; that is, when the demand for the produce is not increased by the consumption of trading cities.'—(*Moral Philosophy*, book vi. cap. 11.)

But the fact of their being mainly conducive to the growth of cities, is not the only advantage which improved roads and canals confer upon agriculture. Without their aid it would be impossible to carry to distant places sufficient supplies of such bulky and heavy articles as lime, marl, shells, and other manures, necessary to give luxuriance to the crops of rich soils, and to render those that are poor productive. Not only, too, would inferior roads lessen the market for farm produce, and consequently the quantity raised, but a larger proportional number of horses or other cattle would be required to convey the diminished produce to market. It is plain, therefore, that good roads are both directly and indirectly a prime source of agricultural improvement;—directly, by increasing the quantity, and reducing the cost of manure; and by increasing the quantity and reducing the cost of conveying farm produce to market; and, indirectly, by providing for the growth and indefinite

extension of cities and towns, that is, of the markets for agricultural produce.

Increased speed of conveyance is one of the principal advantages that have resulted from the formation of good roads, the invention of steam-packets, &c. Suppose that it takes two days to travel by an uneven ill-made road between any two places; and that by improving the road, the journey may be accomplished in one day; the effect is the same as if the distance were reduced a half; and there is not only a great saving of time to travellers, but also a great saving from the more speedy conveyance of commodities. This latter is a point of much more importance than is commonly supposed. It is not possible to form any correct estimate of the value of the products that are constantly in the act of being carried from place to place in Great Britain and Ireland. It is certain, however, that it is very great; and every additional facility of conveyance, by bringing such products more rapidly to their destination, and enabling them to be sooner applied to the purposes for which they are intended, renders large quantities of capital available for industrious purposes, that would otherwise be locked up.

Roads of one sort or other must, of course, exist in every country emerged from barbarism,—but in England, the statute of the 28th of Philip and Mary, which is still in force, is the first legislative enactment in which a regular provision was made for the repair of the roads. The preamble to this statute declares, that the roads were tedious and noisome to travel on, and dangerous to passengers and carriages; and, therefore, it enacts, that in every parish two surveyors of the highways shall be annually chosen, and the inhabitants of all parishes obliged, according to their respective ability, to provide labourers, carriages, tools, &c., for *four* days each year, to work upon the roads, under the direction of the surveyors. This system, though in many respects exceedingly defective, was at the time justly considered a great improvement, and answered pretty well till the reign of Charles II., when, owing to the increase of carriages, particularly about London, it became necessary to adopt more efficient measures for the formation and repair of roads; and the plan of imposing tolls upon those who made use of the roads began then to be adopted. But this system was not carried into

full effect, and placed upon a solid footing, till about 1767, when it was extended to the great roads to all parts of the country; the contributions of labour under the Act of Philip and Mary being then appropriated entirely to the cross or country roads. A money payment is also very frequently made instead of a contribution in labour.

When the plan for extending turnpike roads from the metropolis to distant parts of the country was in agitation, the counties in the neighbourhood of London petitioned Parliament against it, alleging, that the remoter counties would be able, from the comparative cheapness of labour in them, to sell their produce in London at a lower rate than they could do; and that their rents would be reduced, and cultivation ruined by the measure! Luckily this interested opposition proved ineffectual, and instead of being injurious to the counties adjoining the metropolis, the improvement of the roads has been quite as beneficial to them as to those at a distance, inasmuch as, by providing for the indefinite extension of the city, it has rendered it a far better market for their peculiar productions than it would have been, had its growth been checked, which must have been the case long ago, had the improvements in question not been made.

The plan of making and repairing roads by contributions of labour is not peculiar to England, but was at one period general all over Europe. By an Act of the Scotch Parliament, passed in 1669, all persons engaged in husbandry were obliged to labour six days each year, before or after harvest, upon the public roads; the farmers and landlords being, at the same time, obliged to furnish horses, carts, &c., according to the extent of land occupied by them. The inconveniencies of such a system are many and obvious. Those who get no pay for their work, and who perform it against their will, waste their time and industry; and there is besides a great loss incurred by the interruption of the regular pursuits of the labourer. A sense of these disadvantages led, in the early part of the reign of George III., to a commutation of the labour contribution for a money-tax on land, rated according to its valuation in the cess-books. This measure has been productive of the best effects. Previously to its taking place, the roads, even in the best cultivated districts of Scotland, were in the

worst possible state; now, however, they are about the very best in Europe.

A similar system has been followed on the Continent. When Turgot entered on his administration, he sent a circular letter to the road-surveyors and engineers of the different provinces of France, desiring them to transmit estimates, framed on the most liberal scale, of the sums of money for which the usual repairs might be made on the old roads, and the ordinary extent of new ones constructed. The average of the estimates shewed that a money contribution of about 10,000,000 livres a-year would suffice for these objects: whereas Turgot shewed, that the execution of these repairs and constructions, by contributions of forced labour, or *corvées*, cost not less than 40,000,000 livres! —(*Art. Taxation, Supp. to Ency. Brit.*)

There is still, however, a great deal of labour performed on the cross and country roads of England, under the system established by the Act of Philip and Mary. Its continuance is most probably to be ascribed to the want of any ready means for its commutation.

It is the duty of Government to furnish assistance towards the formation of roads and bridges in parts of the country where they are necessary, and where the funds required for their formation cannot otherwise be obtained. But it is in such cases extremely desirable, in order to prevent Government from being deceived by interested representations, that those more immediately concerned in the undertaking should be bound to contribute a considerable portion of its expense. This has been done in the case of the Highland roads. Down to a very recent period, large tracts in the Highlands were quite inaccessible, and were, consequently, in a great measure shut out from all improvement; while the rugged nature of the country and the poverty of the inhabitants rendered any attempt to construct improved roads an undertaking beyond their means. Under these circumstances, Government came forward, and engaged to advance half the expense of making roads and bridges in certain districts, on condition that the landlords and others interested, should advance the other half, and that the work should be executed under the direction of Parliamentary Commissioners and engineers. This arrangement has been highly beneficial. Through its means about 600 miles of excellent roads have been constructed; and in conse-

quence of the easy means of communication they afford, a spirit of improvement has been excited even in the wildest and least frequented districts.

Dr. Smith seems to have inclined to the opinion, that the roads of a country would be better attended to, and more economically managed, were they placed under the control of government, than when they are left to be planned and superintended by private individuals. But this opinion does not seem to rest on any good foundation. It is, perhaps, true that a few of the great roads between the principal towns of a county might be better laid out by government surveyors, than by surveyors appointed by the gentlemen of the different counties through which they pass. But these great roads bear but a very small proportion to the total extent of cross and other roads with which every county either is, or ought to be, intersected; and, besides, it is abundantly certain, that when the formation of the great roads is left, as in Great Britain, to the care of those, who, either by themselves or their tenants, have to defray the greater part of the expense of their construction and repair, they will be managed, if not with greater skill, at least with far more economy than if they were entrusted to the agents of government. M. Dupin has set this matter in the clearest point of view, in the remarks he has made on the administration of the roads in France and England. In the former they are entirely under the control of government, and the consequence is, that while there is a useless expenditure upon a few great roads, the cross-roads are almost entirely neglected, and the facilities of internal intercourse are incomparably inferior to ours.

It appears from a paper printed by order of the House of Commons, in 1818, that the length of the different paved streets and turnpike-roads in England and Wales, at that period, amounted to about 20,000 miles, and the length of the other highways to about 95,000 miles. The value of the labour performed in kind upon the roads is estimated, in the same paper, at 515,000*l.* a-year; the commutation money, paid for contributions of labour, is estimated at 271,000*l.*; and the average produce of the tolls is estimated at 570,000*l.*; making the total yearly expenditure upon all the roads of England and Wales, in 1818, to be, 1,356,000*l.* At this moment it may be estimated at 1,600,000*l.*

In fixing the rate of tolls, great care should be taken to keep them as low as possible. When they are either too much multiplied or too high, they have a very pernicious influence. They then operate as a most oppressive and unequal tax on commerce; and obstruct that very intercourse they are intended to furnish the means of promoting. The same remark is applicable to all sorts of dock and harbour dues, light-house dues, &c. When confined within due bounds they cannot justly be objected to; for nothing can be fairer than that those who benefit by such increased facilities and security in the prosecution of their businesses should pay for them. But whenever they exceed the proper limits, they tempt the navigator to resort to ports where the charges are lower, and to direct his course through more insecure but less costly channels.

It is not easy for those accustomed to travel along the smooth and level roads by which every part of this country is now intersected, to form any accurate idea of the difficulties the traveller had to encounter a century ago. Roads were then hardly formed; and, in summer, not unfrequently consisted of the bottoms of rivulets. Down to the middle of last century, most of the goods conveyed from place to place in Scotland, at least where the distances were not very great, were carried, not by carts or waggons, but on horseback. Oatmeal, coals, turf, and even straw and hay, were conveyed in this way! At this period, and for long previous, there was a set of single-horse traffickers (cadgers) that regularly plied between different places, supplying the inhabitants with such articles as were then most in demand, as salt, fish, poultry, eggs, earthenware, &c.: these were usually conveyed in sacks or baskets, suspended one on each side the horse. But in carrying goods between distant places, it was necessary to employ a cart, as all that a horse could carry on his back was not sufficient to defray the cost of a long journey. The time that the *carriers* (for such was the name given to those that used carts) usually required to perform their journeys, seems now almost incredible. The common carrier from Selkirk to Edinburgh, *thirty-eight* miles distant, required a *fortnight* for his journey between the two places, going and returning! The road originally was among the most perilous in the whole country; a considerable ex-

tent of it lay in the bottom of that district called Gala-water, from the name of the principal stream, the channel of the water being, when not flooded, the track chosen as the most level, and easiest to travel in.

Even between the largest cities the means of travelling were but little superior. In 1678, an agreement was made to run a coach between Edinburgh and Glasgow, a distance of forty-four miles, which was to be drawn by *six* horses, and to perform the journey from Glasgow to Edinburgh and back again in *six* days. Even so late as the middle of last century, it took a day and a half for the stage-coach to travel from Edinburgh to Glasgow, a journey which is now accomplished in four and a half or five hours.

So late as 1763 there was but one stage-coach from Edinburgh to London, and it set out only once a month, taking from twelve to fourteen days to perform the journey! At present, notwithstanding the immense intercourse between the two cities by means of steam-packets, smacks, &c., six or seven coaches set out each day from the one for the other, performing the journey in from forty-five to forty-eight hours.—(*Robertson's Rural Recollections*, pp. 39—44.)

The effects of this extraordinary improvement in the means of travelling have been as striking on the manners as on the industry of all classes. The remark of Dr. Smith that 'man is the least transportable species of luggage,' is no longer true as applied to Great Britain. During spring the metropolis is crowded with visitors of all ranks and orders from the remotest provinces; and during summer and autumn vast numbers of the citizens are spread over the country. Hence it is, that manners as well as prices are reduced nearly to the same standard. A respectable family at Penzance or Inverness live very much in the same way as a respectable family in London. Peculiarities of all sorts have disappeared; everything is, as it were, brought to a level; the fashions and opinions of the metropolis are immediately diffused over every part of the country; while those that originate in the latter powerfully influence the former.

The safe and speedy conveyance of letters by post is one of the greatest services rendered to commerce, by the

formation of good roads. An institution for the forwarding of letters and despatches, as well as of travellers, existed in Rome, under the name of *cursus publici*; but the post-office appears to have been instituted, for the first time in modern Europe, by Louis XI., in 1477. In this country the post-office was not established till the seventeenth century. Postmasters, indeed, existed in more ancient times: but their business was confined to the furnishing of post-horses to persons desirous to travel expeditiously, and to the despatching of extraordinary packets on special occasions. At length, after various abortive attempts for the same purpose, a post-office, or establishment for the *weekly* conveyance of letters to all parts of the kingdom, was instituted in 1649, by Mr. Edmund Prideaux, attorney-general to the Commonwealth.

From the establishment of the post-office down to 1784, mails were conveyed either on horseback, or in carts made for the purpose; and instead of being the most expeditious and safest conveyance, the post had become, at the latter period, one of the slowest and most easily robbed of any in the kingdom. In 1784 it was usual for the diligences between London and Bath to accomplish the journey in *seventeen* hours, while the post took *forty* hours; and on other roads the rate of travelling was in about the same proportion. The consequence was, that a very great number of letters was sent by other conveyances than the mail, the law to the contrary being easily evaded by giving them the form of small parcels.

Under these circumstances, it occurred to Mr. John Palmer, of Bath, comptroller-general of the post-office, that a very great improvement might be made in the conveyance of letters, in respect of economy, as well as of speed and safety, by contracting with the proprietors of the coaches for the carriage of the mail, the latter being bound to perform the journey in a specified time, and to take a guard with the mail for its protection. Mr. Palmer's plan encountered much opposition, but was at length carried into effect. The consequences have proved most beneficial. The use of mail-coaches has extended to every part of the empire; and while the mail is conveyed in less than half the time that was required under the old system, the coaches by which it is conveyed afford, by their regularity and speed, a

most desirable mode of travelling. Mr. Palmer was the author of several other improvements in the economy of the post-office, and there is no other individual to whom this department owes so much.

It does not really seem, though the contrary has been sometimes contended, that the post-office could be so well conducted by any one else as by government. The latter alone can enforce perfect regularity in all its subordinate departments; can carry it to the smallest villages, and even beyond the frontier; and can combine all its separate parts into one uniform system, on which the public may rely, both for safety and despatch.

The same remark is applicable to the postage of letters that we have made with respect to tolls. It is quite reasonable and fair that those who use the post, or send letters by it, should pay the expense of their conveyance; and experience has shewn, that besides defraying this expense, the post-office may be made to yield a considerable revenue. But no additions ought ever to be made to the postage of letters without mature consideration. Nothing contributes more to facilitate commerce than the safe, speedy, and cheap conveyance of letters; and whatever has a tendency materially to lessen these advantages is hostile in the extreme to its interests.

The comparative cheapness with which goods may be conveyed by the sea or by means of navigable rivers, seems to have suggested, at a very early period, the formation of canals to the ancient Egyptians and other nations. In Great Britain, however, owing to the late rise of commerce and industry, and the insular situation of the country, no part of which is very distant from a navigable river, no attempt was made to construct canals till a comparatively recent period. Our first efforts for the improvement of internal navigation were directed to the deepening of rivers and removing the obstructions to their navigation. In 1635, a project was set on foot for rendering the Avon navigable from the Severn near Tewksbury, through the counties of Warwick, Worcester, and Gloucester. The civil war having broken out soon after, the project was abandoned, and does not seem to have been again revived. But after the Restoration, and during the earlier

part of last century, Acts were at different times obtained for deepening and improving river navigation. For the most part, however, these attempts were not very successful. The current of the rivers gradually changed the form of their channels; the dykes and other artificial constructions were apt to be destroyed by inundations; alluvial sand-banks were formed below the weirs; in summer the channels were frequently too dry to admit of being navigated, while, at other periods, the current was so strong as to render it quite impossible to ascend the river, which at all times, indeed, was a laborious and expensive undertaking. These difficulties in the way of river navigation seem to have suggested the expediency of abandoning the channels of most rivers, and of digging parallel to them artificial channels, in which the water might be kept at the proper level by means of locks. The Act, passed in 1755, for improving the navigation of Sankey-brook, on the Mersey, gave rise to a lateral canal of this description, about eleven miles and a quarter in length, which deserves to be mentioned as the earliest effort of the sort in England.

But, before this canal had been completed, the celebrated Duke of Bridgewater, and his still more celebrated engineer, the self-instructed James Brindley, had conceived a plan of canalization independent altogether of natural channels, and intended to afford the greatest facilities to commerce, by carrying canals across rivers and through mountains, wherever it was practicable to construct them.

The Duke obtained his first Act, for making a canal from Worsley to Manchester, in 1759; and the extraordinary skill with which it was executed, and its complete success, led not only to the extension of the Duke's original plans, but to the formation and execution of a vast number of new projects. The impetus once given, has been continued; so that at this moment England is more amply provided with the means of internal communication by water, than any other country of Europe, with the exception of Holland.

The utility of canals is so very much akin to that of roads, that the remarks made on the former will equally apply to the latter. For the conveyance of heavy and bulky articles, such as coal, minerals, lime, manure, potatoes, &c. canals are preferable to roads. They

are entitled to a very prominent place in any enumeration of the causes of the unprecedented advance of wealth and population in England during the last sixty or seventy years. They have given to almost all our considerable towns the command of an extensive inland navigation, and have consequently promoted their manufactures, commerce, and population, in a degree that is not easily imagined.

But great as the facilities afforded by the roads and canals hitherto in use have been, it is supposed by many that they will, at no distant period, be superseded by the general introduction of *rail-roads* and *locomotive* engines. The rail-road from Manchester to Liverpool is one of those undertakings that reflect the greatest credit on the enterprise of the country; and the performances of the engines upon it, in respect both of swiftness and power, are altogether astonishing, and go far to render space and time elements of very inferior importance in the calculations of the traveller. But the expense of constructing a rail-road, and of keeping it in repair, is very great; and the original cost and wear and tear of the engines are also very heavy items. It is reasonable, indeed, to suppose that this expense will be materially reduced, according as this new department of the science of engineering comes to be better understood; but, at present, it does not appear that rail-roads could be safely introduced, except between places not very distant, and which have an extensive intercourse together.

It is customary to insert provisions in the acts authorising canals to be cut, limiting the sum which the proprietors are to be entitled to charge upon the goods conveyed by them. But we think the dividend ought also to be limited; and that it should be stipulated, that whatever a moderate toll yielded over and above defraying this dividend, and providing for the repair of the canal, should be accumulated as a fund to buy up the stock of the canal, so that the toll may ultimately be reduced to such a sum as may suffice merely to defray the ordinary repairs, and the expense of towing. Were the possible dividend that the proprietors might divide so high as to afford them a sufficient inducement to embark their capital in the undertaking, we are not aware of any serious inconveniencies that could result from the adoption of such a plan, while

it might be productive of very great advantages. Had the dividends upon the Grand Trunk Canal been limited to 20 or 25 per cent., there would not have been a single subscriber the less at the outset, and the canal would have been bought up long ago, and the expenses of transit upon it reduced to almost nothing. We would extend this principle to rail-roads, and most other undertakings where any exclusive privilege is given to the subscribers. Had it been attended to when the New River project was set on foot, the inhabitants of the metropolis would, during the last hundred years, have been supplied with water free of expense. To assign over to a few private individuals the power of making *unlimited profits* for an *unlimited period*, at the expense of the public, is a wanton sacrifice of their rights and interests. A limitation of profits to 15 or 20 per cent. would not, we are satisfied, occasion a single project to be abandoned, that would be carried into effect were the limitation withdrawn. It would give to enterprise a fair and ample reward; at the same time, that it would secure to the public a participation in such extraordinary gains as could not enter into the views of the projectors of any rational scheme.

The application of steam to the purposes of navigation has had a wonderful influence in facilitating commerce. Formerly it was not unusual for large fleets to be wind-bound for several days, and sometimes even weeks, in a port or roadstead, from which, had they been able to escape, they might have prosecuted their voyage. The employment of steam-vessels for the purpose of towing others out of port has effectually obviated this source of inconvenience and loss, and has enabled ships to get to sea as soon as they are ready. In countries like Great Britain, which have a vast extent of sea-coast, steam-navigation is particularly important. Ordinary sailing-vessels may be prevented by adverse winds, for several days, from effecting even the shortest passage; but steam-ships make their way in defiance of every obstacle, and have given to voyages, from place to place, by sea, the expedition, and almost the regularity, of mail-coach travelling! 'These new and wonderful machines walk the water, like a giant rejoicing in his course,—stemming alike the tempest and the tide,—accelerating intercourse—shortening distances—creating, as it were,

unexpected neighbourhoods, and new combinations of social and commercial relations; and giving to the fickleness of winds, and the faithlessness of waves, the certainty and steadiness of a high-way upon the land.—(*Canning's Speeches at Liverpool.*)

But it is in river navigation that the influence of this new power will be principally felt. The difficulty of ascending rivers has hitherto been a great obstacle to their navigation; but happily the genius of Watt and Fulton has overcome this difficulty. The inmost recesses of Europe, America, Asia, and even Africa, have been rendered accessible to commercial enterprise. The Elbe, the Vistula, the Mississippi, the Amazon, the Euphrates, and the Nile, may now be safely and easily explored; and the commodities and products of the most distant countries conveyed to the heart of the Continents in which they have their source. The sea, which has been expressively termed the great highway of nations, has thus, as it were, received a vast extension; and the identical vessel in which an individual leaves the Thames, may convey him to Prague, the ruins of Babylon, the Andes, or the frontiers of Ethiopia.

In consequence of the general establishment of regular government, of the protection afforded to industry, and of the influence of those facilities to commerce we have thus briefly endeavoured to trace, it has, notwithstanding the counteracting circumstances to which we shall speedily call the reader's attention, been extended to every country of the world; all have felt its beneficial influence; all have been indebted to it for the principal part of the progress they have hitherto made in civilization; and all may expect, when the obstacles that still oppose its progress are removed, that it will accelerate their progress, and become a still more prolific source of industry and opulence.

CHAPTER IV.

General considerations as to the Freedom of Commerce—Origin of Restrictions

—I. *Restrictions originating in erroneous notions as to the Precious Metals—Balance of Trade.*—II. *Operation and Influence of Restrictions intended to promote Industry at Home.*—III. *Operation and Influence of Restrictions originating in Political Motives.*

In the previous chapters we have en-

deavoured to lay before the reader a view of the rise and influence of commerce, and of the principal means by which it may be promoted. We have shown that the commercial intercourse carried on between the inhabitants of different districts of the same country, and those of different countries, is founded on that very principle which prompts each member of the same family, or each inhabitant of the same village, to apply himself to some one business. It would, therefore, seem that that *freedom* of commerce which is universally admitted to be productive of the most beneficial consequences when established between the occupants of different districts of the same country, must be equally so when established between those of different countries. It appears to be generally believed, that to occasion a commercial intercourse, nothing more is necessary than to remove such legal or physical obstacles as may interpose to prevent it. But this is not by any means enough. A, of Yorkshire, does not sell to or buy from B, of Kent, merely because there is nothing to hinder him from doing so; he must further believe that his interest will be promoted by the transaction: unless he do this, the utmost facility of exchanging will be offered to him in vain; nor will the finest roads or the speediest conveyances occasion the least intercourse. We neither buy nor sell for the mere pleasure of the thing. We do so only when we believe it will be a means of promoting some end, of procuring some peculiar advantage for ourselves that we could not have so easily procured in any other way. If any one supposed he could better attain his object in entering upon a commercial transaction with some particular individual, by entering upon a similar transaction with some one else, or by any other means, he would most certainly decline engaging in it. We may, and often do, make a false estimate of what is for our advantage; but its promotion is the mainspring of our actions; and it is it, and it only, that we have in view when we buy of a particular individual, or resort to a particular market, in preference to others.

Unless, therefore, it could be satisfactorily established that princes and rulers have a better understanding of what has a tendency to promote the wealth and industry of their subjects, than themselves, it is difficult to see on what

ground any restriction on the freedom of commerce is to be vindicated. The person who buys French wine or Polish corn does so only that he may benefit himself; and the fair presumption is, that he does what is right. Human reason is, no doubt, limited and fallible; we are often swayed by prejudice, and are apt to be deceived by appearances. Still, however, it is certain that the desire to promote our own purposes contributes far more than anything else to render us clear-sighted and sagacious. '*Nul sentiment dans l'homme,*' says the able economist, M. Say, '*ne tient son intelligence éveillée autant que l'intérêt personnel. Il donne de l'esprit aux plus simples.*' The principle that individuals are, speaking generally, the best judges of what is most beneficial for themselves, is now universally admitted to be the only one that can be safely acted upon. No writer of authority has latterly ventured to maintain the exploded and untenable doctrine, that governments may advantageously interfere to regulate the pursuits of their subjects. It is their duty to preserve order, to prevent one from injuring another; to maintain, in short, the equal rights and privileges of all. But it is not possible for them to go one step farther, without receding from the principle of non-interference, and laying themselves open to the charge of acting partially by some, and unjustly by others.

'The statesman,' says Dr. Smith, 'who should attempt to direct private people in what manner they ought to employ their capitals, would not only load himself with a most unnecessary attention, but assume an authority which could safely be trusted not only to no single person, but to no council or senate whatever, and which would nowhere be so dangerous as in the hands of a man who had folly and presumption enough to fancy himself fit to exercise it.'—(*Wealth of Nations*, vol. ii., p. 280.)

In every discussion as to any point of public economy, it is essential to bear in mind that the legislature abandons its duty, or rather acts in direct opposition to it, the moment it begins to legislate in the view of promoting the interest of particular classes. The question never ought to be, whether any proposed measure or regulation has a tendency to benefit agriculturists, manufacturers, or merchants; but whether its tendency be to benefit the public. Certain indi-

viduals or classes may be benefited by what is prejudicial to others; but it would be a contradiction to contend that a system of policy which enriches A by impoverishing B can be publicly advantageous. And it is upon this latter consideration that the attention of the legislature ought always to be fixed. Whatever has any tendency to increase the security of property, to perfect the divisions of labour, to stimulate industry and ingenuity, and to increase the wealth and comforts of *all* classes, deserves the encouragement of government. But when it goes further, and interferes to prohibit individuals from carrying on certain branches of trade that others may be promoted, it arrogates to itself that authority, the assumption of which is so justly censured by Dr. Smith. Such a prohibition is, in fact, quite subversive of the right of private property; for that right is violated, not merely when a man is unjustly deprived of any part of his fortune, but also when he is prevented from disposing of it in any way, not hurtful to others, he may think fit.

It does not, therefore, appear, considering this question on general grounds, that there is the shadow of a foundation for those commercial restrictions that make so prominent a figure in the policy of all modern nations. If it could be shown that statesmen and ministers were the best judges of the means by which those subject to their authority might improve their condition, the case would be different. But no such pretension is set up, and, if it were, it would be universally scouted. We may safely leave the conduct of individuals to be determined by their own prudence and sagacity. They act under the most serious responsibility; and we have the best attainable security—the plain and obvious interest of the parties—that they will, in the peculiar circumstances under which they are placed, follow that course which is most advantageous for themselves, or, in other words, for the community. All systems of policy that would regulate the pursuits of private persons according to the views of government, must be arbitrary and violent in their nature; and any attempt to act upon them could not fail to be productive of the most mischievous consequences. A wise government will confine its efforts to the maintenance of that order of things which Nature has established. It will not mix itself up

with the affairs of its subjects, but will leave them to pursue their own interest in their own way; to bring their industry and capital into the freest competition with those of others; and will interpose only when they swerve from the rules of justice. Freedom and security are all that is necessary to stimulate industry, and to insure the most rapid advancement in the career of improvement.

We cannot, however, feel any surprise that these principles should have been so widely departed from, and that commerce, and, indeed, most sorts of industry, should be everywhere subjected to restrictions and regulations. They originated in a comparatively unenlightened age, before the genuine sources of public wealth, and the limits of proper interference on the part of governments, had been explored and defined. The fallacies on which most of them are founded, however obvious they may now seem, were not speedily or easily detected; and, after their hollowness has been exposed, the return to a better system is a work of extreme difficulty. Every regulation affecting the employment of capital and industry, though always injurious to the public, is, for the most part, productive of advantage to a greater or smaller number of individuals. The moment that any change is proposed, these persons lay before government the most exaggerated representations of the injury that would result from the abolition or modification of the regulation; and not satisfied with this, they most commonly enlist a portion of the press into their service, and, availing themselves of all the aid that sophistry and ingenuity can supply, labour to make the public believe that it is a national benefit, and that they are interested in its support! This device has very often been attended with the most complete success; and it is to this circumstance, more than anything else, that the tenacity with which erroneous theories in commerce are supported, is to be ascribed; and that sophisms, that have been again and again exposed, are put forward anew with as much seeming confidence as if they had never been questioned.

The origin of the greater number of the restraints laid upon commerce may be traced to one or more of the following sources:—*first*, to erroneous notions with respect to the precious metals, and the *balance of trade*; *second*, to well-

meant but mistaken efforts to encourage industry at home; and, *third*, to political motives, to a desire to depress the industry of a rival nation, or to avenge prohibitions by prohibitions. We shall offer some observations on each of these classes of restrictions.

I. Restrictions originating in erroneous notions as to the precious Metals—Balance of Trade.—It may appear like a truism to state, that wealth does not consist in the abundance of gold and silver, but in the abundance of the various necessities, conveniences, and enjoyments of human life. But though this be now universally admitted, the contrary opinion was long acted upon; and of those who allow that gold and silver are nothing but commodities, there are many who still think that their importation and exportation are determined by peculiar laws, and are productive of very different effects from the importation or exportation of any other species of produce.

The notions so long prevalent as to the paramount importance of the precious metals, naturally grew out of the circumstance of their having been almost everywhere selected, at a very early period, to perform the functions of money. Being used both as standards by which to determine the value of commodities, and the equivalents for which they were most frequently exchanged, they acquired, in consequence of this double function, an adventitious importance, not in the estimation of the vulgar only, but in that of persons of the greatest discernment. The simple and decisive consideration, that all buying and selling is really nothing more than the bartering of one commodity for another,—of a certain quantity of corn or cloth, for example, for a certain quantity of gold or silver, and *vice versa*,—was entirely overlooked. The attention was gradually transferred from the end to the means, from the money's worth to the money itself; and the wealth of individuals and states was supposed to consist, not of the abundance of their disposable products, of the quantity or value of the products with which they could afford to purchase the precious metals, but of the quantity of these metals actually in their possession. Such is the flimsy and fallacious hypothesis on which the theories of most of the early commercial writers are founded; and such also is the hy-

pothesis on which this and most other civilized countries at one time regulated their intercourse with each other! The grand object of governments has not been to facilitate production, but to monopolize the greatest supply of the precious metals. And as, in countries destitute of mines, these could not be obtained except in exchange for commodities sent abroad, various devices were resorted to for encouraging exportation, and preventing the importation of all commodities, other than the precious metals, that were not destined for future exportation. And thus it was that the prosperity of states came to be measured, not by the increase of their capital or population, by the rate of wages or of profits, or by their advancement in the useful and elegant arts; but by the *excess of the value of their exports over the value of their imports*. This excess was denominated a *favourable balance*, or a balance against the foreigner; and it was not supposed that he could cancel it, except by sending to the creditor country an equivalent amount of gold and silver, or of that which was then believed to be the only real wealth. When the imports exceeded the exports, the balance was said to be *unfavourable*; and it was concluded that a corresponding amount of bullion would have to be sent abroad, the nation being in consequence rendered so much the poorer!

It would be worse than useless to take up the reader's time by proving, what is now universally admitted, that gold and silver form only a very small portion of the wealth of every civilized country, and that it is in no respect necessary to take any extraordinary measures to force their importation, or to retain them at home after they have been imported. We shall content ourselves with showing that, though the theory of the *balance of trade* had not been founded on erroneous notions as to money, it was in other respects entirely fallacious. There are really no means by which any accurate estimate can be formed of the balance due to or by any particular country on account of its commercial transactions with others. Supposing, however, that it were correctly ascertained, it would be found, in opposition to the common opinion, that the value of the commodities imported generally exceeds the value of those that are exported; and that it is only in certain cases, and those of very rare occur-

rence, that a balance is cancelled by a bullion payment.

(1.) The proper business of the wholesale merchant consists in carrying the various products of the different countries of the world, from places where their value is least to those where it is greatest; or, which is the same thing, in distributing them according to the effective demand. It is clear, however, that there could be no motive to export any species of produce, unless that which it was intended to import in its stead was of greater value. When an English merchant commissions a quantity of Polish wheat, he calculates on its selling for so much more than its price in Poland as will be sufficient to pay the expense of freight, insurance, &c., and to yield beside the common and ordinary rate of profit on the capital employed. If the wheat did not sell for this much, its importation would obviously be a loss to the importer. It is plain, then, that no merchant ever exports but in the view of importing something more valuable in return. And so far from an excess of exports over imports being any criterion of an advantageous commerce, it is distinctly the reverse; and the truth is, notwithstanding all that has been said and written to the contrary, that unless the value of the imports exceeded that of the exports, foreign trade could not be carried on. Were this not the case, that is, were the value of the exports always greater than that of the imports, we should lose in every transaction with foreigners, and the trade with them would be speedily abandoned.

The rates at which exports and imports are officially valued, in England, were fixed so far back as 1696. But the very great alteration that has since taken place, not only in the value of money, but also in the cost of most commodities, renders this official valuation of no use whatever as a criterion of the true value of the exports and imports. In order to remedy this defect, an account of their *real* or *declared* value is annually prepared from the declarations of the merchants, and laid before Parliament. But even this is very far from accurate: most imported commodities being loaded with heavy duties, it is, speaking generally, the interest of the merchant to conceal and underrate their value; while, on the other hand, it is sometimes for his interest to exag-

gerate the value of those entitled to a drawback on being exported; and as few commodities are subject to a duty on exportation, it may be fairly presumed that their value is, if not over-rated, at least stated at its full amount.

If perfectly accurate accounts could be obtained of the value of the exports and imports of a commercial country, there can be no manner of doubt that, in ordinary years, the latter would always exceed the former. The value of an exported commodity is estimated at the moment of its being sent abroad, and *before* its value is increased by the expense incurred in transporting it to the place of its destination; whereas the value of the commodity imported in its stead is estimated *after* it has arrived at its destination, and, consequently, after its value has been enhanced by the cost of freight, insurance, importer's profits, &c.

In the United States the value of the imports, as ascertained by the custom-house returns, always exceeds the value of the exports. And although our practical politicians have been in the habit of considering the excess of the former as a certain proof of a disadvantageous commerce, 'it is nevertheless true,' says Mr. Pitkin, '*that the real gain of the United States has been nearly in proportion as their imports have exceeded their exports.*' (*Commerce of the United States*, 2nd edit. p. 280.) The great excess of American imports has in part been occasioned by the Americans generally exporting their own surplus produce, and consequently receiving from foreigners not only an equivalent for their exports, but also for the cost of conveying them to the foreign market. 'In 1812,' says the author just quoted, 'flour sold in America for *nine dollars and a half* per barrel, and in Spain for *fifteen dollars*. The value of the cargo of a vessel carrying 5000 barrels of flour would, therefore, be estimated, at the period of its exportation, at 47,500 dollars; but as this flour would sell, when carried to Spain, for 75,000 dollars, the American merchant would be entitled to draw on his agent in Spain for 27,500 dollars more than the flour cost in America; or, than the sum for which he could have drawn had the flour been exported in a vessel belonging to a Spanish merchant. But the transaction would not end here: the 75,000 dollars would be vested in some species of Spanish or other European goods fit for

the American market; and the freight, insurance, &c. on account of the return cargo, would probably increase its value to 100,000 dollars; so that in all the American merchant might have imported goods worth 52,500 dollars more than the flour originally sent to Spain.' It would be as reasonable to deny that such a transaction is advantageous, as it is to deny that its advantage consists entirely in the excess of the value of the goods imported over the value of those exported. And it is equally clear, that America might have had the real balance of payments in her favour, though such transactions as the above had been multiplied to any conceivable extent.

(2.) In the second place, when a balance is due by one country to another, it is but seldom that it is paid by remitting bullion from the debtor to the creditor country. If the sum due by the British merchants to those of Holland be greater than the sum due by the latter to them, the balance of payments will be against Britain; but this balance will not, and, in fact, cannot, be discharged by an exportation of bullion, *unless bullion be at the time the cheapest exportable commodity*; or, which is the same thing, *unless it may be more advantageously exported than anything else*. Let us suppose that the balance of debt, or the excess of the value of the bills drawn by the merchants of Amsterdam on London over those drawn by the merchants of London on Amsterdam, amounts to 100,000*l.*: it is the business of the London merchants to find out the means of discharging this debt with the least expense; and it is plain, that if they find that any less sum, as 96,000*l.*, 97,000*l.*, or 99,900*l.*, will purchase and send to Holland as much cloth, cotton, hardware, colonial produce, or any other commodity, as would sell in Amsterdam for 100,000*l.*, no gold or silver will be exported. The laws which regulate the trade in bullion are not in any degree different from those regulating the trade in other commodities. It is exported only when its exportation is advantageous, or when it is more valuable abroad than at home. It would, in fact, be quite as reasonable to expect that water should flow up-hill, as it is to expect that bullion should leave a country where its value is great, to go to one where it is low! It is never sent abroad to destroy, but always to find, its level. The balance of payments might be ten or a hundred millions against a country,

without causing the exportation of a single ounce of bullion. Common sense tells us, that no merchant will remit 100% worth of bullion to discharge a foreign debt, if it be possible to invest any smaller sum in any species of merchandise which would sell abroad for 100%, exclusive of expenses. A dealer in the precious metals is as much under the influence of *self-interest* as a dealer in coffee or indigo; but who would attempt to extinguish a debt by exporting coffee which cost him 100%, if he could effect his object by sending abroad indigo which cost only 99%?

The argument about the balance of payments is one of those which contradict and confute themselves. As every country in the world, with the single exception of the United States, has its favourable balance, it follows, of course, that they must be paid by an annual importation of bullion from the mines, corresponding to their *aggregate amount*. But it is certain, that the entire produce of the mines, though it were increased in a tenfold proportion, would be insufficient for this purpose! This *reductio ad absurdum* is decisive of the degree of credit that ought to be attached to conclusions respecting the flourishing state of commerce drawn from the excess of exports over imports!

Not only, therefore, is the common theory with respect to the balance of trade erroneous, but the very reverse of it is true. In the *first* place, the value of the commodities imported by all countries which carry on an advantageous commerce (and no other will be prosecuted for any considerable period) invariably exceeds the value of those which they export. Unless such were the case, there would plainly be no fund whence the merchants, and others engaged in foreign trade, could derive either a profit on their capital, or a return for their outlay and trouble. And, in the *second* place, whether the balance of debt be for or against a country, that balance will neither be paid nor received in bullion, unless it be at the time the commodity, by the exportation or importation of which the account may be most profitably settled. Whatever the partisans of the doctrine, as to the balance, may say about money being a preferable product, a *marchandise par excellence*, it will never appear in the list of exports and imports while there is anything else with which to carry on trade or cancel debts, that

will yield a larger profit, or occasion a less expense to the debtors.

Perhaps we might now leave this part of our subject; but erroneous notions as to the superior importance of the precious metals are still so very prevalent, that we hope to be excused for laying the following paragraphs from Dr. Smith's great work before the reader. They set the inefficacy of all attempts to force the importation of gold and silver, and to prevent their exportation, in the most striking point of view.

'A country that has no mines of its own must undoubtedly draw its gold and silver from foreign countries, in the same manner as one that has no vineyards of its own, must draw its wines. It does not seem necessary, however, that the attention of government should be more turned towards the one than towards the other object. A country that has wherewithal to buy wine will always get the wine which it has occasion for; and a country that has wherewithal to buy gold and silver, will never be in want of those metals. They are to be bought for a certain price, like all other commodities; and as they are the price of all other commodities, so all other commodities are the price of those metals. We trust, with perfect security, that the freedom of trade, without any attention of government, will always supply us with the wine which we have occasion for, and we may trust, with equal security, that it will always supply us with all the gold and silver which we can afford to purchase or to employ, either in circulating our commodities, or in other uses.

'The quantity of every commodity which human industry can either purchase or produce, naturally regulates itself in every country according to the effectual demand, or according to the demand of those who are willing to pay the whole rent, labour, and profits, which must be paid in order to prepare and bring it to market. But no commodities regulate themselves more easily or more exactly, according to this effectual demand, than gold and silver; because, on account of the small bulk and great value of those metals, no commodities can be more easily transported from one place to another; from the places where they are cheap to those where they are dear; from the places where they exceed to those where they fall short of this effectual demand. If

there were in England, for example, an effectual demand for an additional quantity of gold, a packet-boat would bring from Lisbon, or from wherever else it was to be had, fifty tons of gold, which could be coined into more than five millions of guineas. But if there were an effectual demand for grain to the same value, to import it would require, at five guineas a ton, a million of tons of shipping, or a thousand ships of a thousand tons each. The navy of England would not be sufficient.

‘When the quantity of gold and silver imported into any country exceeds the effectual demand, no vigilance of government can prevent their exportation. All the sanguinary laws of Spain and Portugal are not able to keep their gold and silver at home. The continual importation from Peru and Brazil exceed the effectual demand of those countries, and sink the price of those metals there below that in the neighbouring countries. If, on the contrary, in any particular country their quantity fell short of the effectual demand, so as to raise their price above that of the neighbouring countries, the government would have no occasion to take any pains to import them. If it were even to take pains to prevent their importation, it would not be able to effectuate it. Those metals, when the Spartans had got wherewithal to purchase them, broke through all the barriers which the laws of Lycurgus opposed to their entrance into Lacedemon. All the sanguinary laws of the customs are not able to prevent the importation of the teas of the Dutch and Gottenburgh East India companies, because somewhat cheaper than those of the British company. A pound of tea, however, is about a hundred times the bulk of one of the highest prices, sixteen shillings, that is commonly paid for it in silver; and more than two thousand times the bulk of the same price in gold, and consequently just so many times more difficult to smuggle.

‘It is partly owing to the easy transportation of gold and silver from the places where they abound to those where they are wanted, that the price of those metals does not fluctuate continually like that of the greater part of other commodities, which are hindered by their bulk from shifting their situation when the market happens to be either over or under-stocked with them. The price of those metals, indeed, is not

altogether exempted from variation, but the changes to which it is liable are generally slow, gradual, and uniform. In Europe, for example, it is supposed, without much foundation perhaps, that during the course of the present and preceding century they have been constantly, but gradually, sinking in their value, on account of the continual importations from the Spanish West Indies. But to make any sudden change in the price of gold and silver, so as to raise or lower, at once sensibly and remarkably, the money-price of all other commodities, requires such a revolution in commerce as that occasioned by the discovery of America.

‘If, notwithstanding all this, gold and silver should at any time fall short in a country which has wherewithal to purchase them, there are more expedients for supplying their place than that of almost any other commodity. If the materials of manufacture are wanted, industry must stop. If provisions are wanted, the people must starve. But if money is wanted, barter will supply its place, though with a good deal of inconveniency. Buying and selling upon credit, and the different dealers compensating their credits with one another, once a month, or once a year, will supply it with less inconveniency. A well regulated paper money will supply it, not only without any inconveniency, but in some cases with some advantages. Upon every account, therefore, *the attention of government never was so unnecessarily employed, as when directed to watch over the preservation or increase of the quantity of money in any country.*’ (*Wealth of Nations*, vol. ii. pp. 247-250.)

We are ready to admit that there is no complaint more common than that of a scarcity of money; but there are few so entirely destitute of foundation. It is not money that is deficient, but articles to offer for it. The man who has property rarely encounters any serious difficulty in exchanging it for money, or in raising loans upon it. However plentiful, but little money will ever find its way into the pockets of the poor. It is, like all valuable articles in universal demand, to be had by those who can afford to pay for it, and by none else. It is true, that were the quantity of money considerably increased, its value would be lowered, and it would be obtainable in exchange for less quantities of labour, or of other things, than previously. But except in so far as a

fall of this sort might occasion a reduction of the fixed burdens affecting the industrious classes, it would be of no advantage to any one. Each individual knows that an increase of his own stock of cash will be much for his advantage; and hence money is universally coveted. But it is because the increase is peculiar—because it is the result of his superior industry, frugality, or good fortune—that it is so advantageous to him. Were every man's cash increased in the same proportion, no one would be the better for the change. Money is not the end of our exertions: it is the means only by which we are to arrive at our ends, or by which we are to increase our command over the necessities and accommodations of human life. But supposing that every man's stock of money were suddenly doubled or trebled, then, as the prices of all sorts of services and commodities would be raised in the same proportion, we should be as far as ever from the attainment of our ends. More tickets or counters would be employed in estimating the value of property, and in transferring it from one to another, but it is needless to add that none would be the better on that account. Individuals are poor, not because there is little money in the country, but because they are destitute of property to give in exchange for money, or because, owing to changes of fashion, or something else, no one is inclined to buy the property they offer for sale. A man who has nothing to give for a hat, or nothing that the hatters will accept of, will not obtain it except by way of gift or charity, even though the markets were glutted with hats. The same is the case with gold, silver, and everything. How much soever the supply of the precious metals may be increased, their possessors will not part with them except for an equivalent; and such as are unable to offer it, must submit to be without them.

'Were all the gold in England annihilated at once, and one and twenty shillings substituted in the place of every guinea, would money be more plentiful, or interest lower? No, surely: we should only use silver instead of gold. Were gold rendered as common as silver, and silver as common as copper, would money be more plentiful, or interest lower? We may assuredly give the same answer. Our shillings would then be yellow, and our halfpence white; and

we should have no guineas. No other difference would be observed; no alterations in commerce, manufactures, navigation, or interest; unless we imagine that the colour of the metal is of any consequence.

'Now, what is so visible in these greater variations, of scarcity or abundance, of the precious metals, must hold in all inferior changes. If the multiplying gold and silver fifteen times makes no difference, much less can the doubling or trebling them. All augmentation has no other effect than to heighten the price of labour and commodities; and even this variation is little more than that of a name. In the progress towards these changes the augmentation may have some influence by exciting industry; but after the prices are settled, suitable to the new abundance of gold and silver, it has no manner of influence.' (*Hume's Essay on Interest.*)

II. *Restrictions in favour of domestic Industry.*—The policy of allowing an unlimited freedom in the trade of the precious metals, though still regarded with jealousy by a great number of individuals, is now almost universally acknowledged by statesmen and legislators. But it is otherwise with that class of restrictions intended to promote domestic industry. In this respect, too, a very great advance has been made, particularly within the last few years, in a more liberal way of thinking. We believe, however, that the majority of well-informed persons, even in the most intelligent countries, are still strongly attached to the protective system, and conscientiously believe that the public interests may be materially promoted by absolutely prohibiting, or at least restricting, the importation of such articles from abroad as may be produced at home. A prejudice of this sort naturally, indeed, grows up in the breast of every man, and is not easily eradicated. The wealth which is expended in the purchase of foreign commodities seems as if it were so much taken from the means of supporting and employing our own countrymen. When an individual, for example, buys French silk and German linen, every one forthwith concludes that the demand for similar articles of home manufacture must be proportionally diminished, while not one in a thousand thinks of tracing the ultimate influence of the transaction. The supposed injury done to the British

artisan is the only thing that is seen or attended to by the vast majority of those who reason upon such topics, or who, at least, undertake to decide as to their policy. And it is not to be wondered at that those who proceed upon such narrow grounds, who throw half the circumstances of the case entirely out of view, should be vehemently opposed to what appears, when thus partially considered, to be productive only of disastrous results. We freely confess that we are not the advocates of a liberal system of commercial policy because of its being generally advantageous to the different nations of the earth. That it is so, is certainly a powerful recommendation in its favour; but we are not cosmopolitans enough to defend it on this ground. And if it could be shown that the freedom of commerce, though beneficial to other countries, was really injurious to England, we should be the very last to propose the repeal or modification of any restriction. We differ with the defenders of the protective system about *means*, and not about *ends*. We are quite as little inclined as they are to advance the interests of others at the expense of our own people; and it is only because we are fully satisfied that the injury supposed to be done to the latter by the admission of foreign products is altogether imaginary, and that, in point of fact, their wealth and prosperity will be most effectually promoted by the unbounded freedom of commerce, that we are its uncompromising advocates.

In discussing the policy of restrictions on importation, it should be borne in mind, that they cannot be of the smallest service to any one engaged in the production of those articles in which the country enacting the restriction has a superiority, or which may be as cheaply produced there as in other places. And no one doubts, that by far the largest proportion of the employments in every extensive country are in this predicament—that they are either carried on under some peculiar advantage of soil, climate, or superior skill, or are in these respects on a par with those carried on in other countries; and in either case, it is not possible that they should sustain the least injury from the unrestricted admission of foreign products. Restrictions intended to prevent or fetter the importation of such articles would, indeed, be wholly inoperative. They

are practically felt only when they affect products that cannot be raised at home, or that may be more cheaply imported from abroad.

It is obvious, on the first blush of the matter, that a policy of this sort contradicts all the principles that regulate the conduct of every prudent individual in private life. No one thinks of performing everything for himself, nor of making at home what it would cost him more to make than to buy. The tailor, as Dr. Smith has remarked, does not attempt to make his own shoes, but buys them from a shoemaker; the shoemaker, on his part, does not attempt to make his own clothes, but employs a tailor; and the farmer makes neither the one nor the other, but obtains them in exchange for corn and cattle. Each individual finds it for his advantage to employ himself in some particular business, and to exchange a part of his peculiar produce for such parts of the produce of others as he may have occasion for. And it is not very easy to see how that conduct, which is universally admitted to be wise and proper in individuals, should be foolish and absurd in the case of a state, that is, of the total number of individuals inhabiting a particular tract of country!

We are not aware that any one has gone so far as to contend, that the commerce carried on by different districts of the same country is disadvantageous to any of them; and yet, as was already remarked, it is not the mere freedom of dealing with each other that leads to an intercourse between different places—it is because all parties are sensible that their interests are promoted by it that it takes place. If any party imagined themselves injured by this traffic, it would be as absolutely put an end to, in so far at least as they are concerned, as if they were separated from the others by impassable mountains or morasses. And when such is the fact, when it is the promotion of their own interests, and nothing else, that leads individuals to engage in commercial enterprises, what is there to fear from giving the same freedom to the intercourse with foreign countries, as to that between different parts of the same country? Though the trade between France and England were as free as that between London and Newcastle, there can be no question that it would continue as limited as

at present, unless the English, as well as the French, found it was for their advantage to extend their dealings.

But it is said, that the only class whose advantage is attended to in such cases, is that of the *consumers*; and that, though they may be benefited by an unrestricted intercourse with foreigners, the *producers* may be deeply injured. There is, however, very little ground for this distinction. Every individual is a consumer, and consumption is, besides, the sole end and purpose of production. It follows, therefore, that the interests of the consumers and those of the community are identical. Whatever promotes them, must, consequently, conduce to the public good—to that *salus populi* which it should be the grand object of all legislation to advance. In changing from a restricted to a free system, a few individuals may be injured in the same way that they are sometimes injured when new processes, or more powerful machines, are introduced. It is material, however, to observe, that the injury in every such case amounts to no more than a forced change of employments; for it will be shown, that to whatever extent the relaxation or repeal of a restriction on importation may lessen the demand for some species of produce raised at home, it unavoidably increases the demand for some other species in a corresponding proportion.

(1.) When a restriction is laid on the importation of any description of commodities previously brought from abroad, their price suddenly rises, and the home producers get an advantage; but what they gain in this way is plainly at the expense of their fellow-citizens, and is, besides, of trifling importance. For, additional capital being drawn to the business, prices are very soon reduced to the level that barely affords the ordinary rate of profit. Now, it is just possible, that this level may be identical with that at which prices stood previously to the restriction; but the probability is, that it will be considerably higher. If the former should happen to be the case, little, though something, will have been lost, but nothing whatever will have been gained by the restriction. By ceasing to import from the foreigner, we must also cease exporting to him; for the exports are, in all cases, merely the equivalents of the imports. All, therefore, that will have been accomplished by this measure will

be the transference of capital from one employment to another. That equality of protection to which all individuals are justly entitled will have been encroached upon; the increase of one business will have been brought about by the depression of some other that was equally advantageous; but no addition will have been made to the capital of the country, or to the facilities for employing that capital with security and advantage.

But in the vast majority of cases, the price of an article imported from abroad is not the same after its importation is prohibited, but is permanently raised; for, if we could previously have produced it as cheaply as the foreigners, it would not have been imported. Instead of being obtainable, as before, for 1,000,000*l.*, the article will henceforth cost, perhaps, 1,200,000*l.*, or 1,500,000*l.* And it is obvious, that the effect of this artificial increase of price on the consumers of the article is precisely the same as if, supposing the trade to have continued free, a peculiar tax of 200,000*l.*, or 500,000*l.* a-year had been laid on them. But it will be observed, that had such a tax been imposed, its produce would have come into the hands of government, and would have formed a portion of the national income; whereas the increased cost of the article is, under the circumstances supposed, occasioned by an *increased difficulty of production*, and is, therefore, of no advantage to any one.

It consequently results, that even in those rare cases in which a restrictive regulation has no tendency to raise prices, it is hurtful, by changing the natural distribution of capital, and lessening the foreign demand for the produce of industry to the same extent that it increases the home demand. But in that incomparably more numerous class of cases in which a restriction occasions a rise in the price of the article which it affects, it is infinitely more injurious. Besides the mischief arising from varying the natural distribution of capital, and circumscribing the foreign trade of the country, such restriction has the effect of imposing a heavy burden on the people, for no purpose of general or public utility, but to produce a certain and grievous injury, by tempting individuals to withdraw from really advantageous businesses to engage in those that cannot be prosecuted without great

national loss, and which must be abandoned the moment the prohibition ceases to be enforced.

'The natural advantages which one country has over another in producing particular commodities are sometimes so great, that it is acknowledged by all the world to be in vain to struggle with them. By means of glasses, hot-beds, and hot-walls, very good grapes can be raised in Scotland, and very good wine too can be made of them, at about thirty times the expense for which, at least, equally good can be brought from foreign countries. Would it be a reasonable law to prohibit the importation of all foreign wines, merely to encourage the making of claret and burgundy in Scotland? But if there would be a manifest absurdity in turning towards any employment thirty times more of the capital and industry of the country than would be necessary to purchase from foreign countries an equal quantity of the commodities wanted, there must be an absurdity, though not altogether so glaring, yet exactly of the same kind, in turning towards any such employment a thirtieth, or even a three-hundredth part more of either. Whether the advantages which one country has over another be natural or acquired, is, in this respect, of no consequence. As long as the one country has those advantages, and the other wants them, it will always be more advantageous for the latter nation to buy of the former than to make. It is an acquired advantage only which one artificer has over his neighbour who exercises another trade, and yet they both find it more advantageous to buy of one another, than to make what does not belong to their particular trades.' (*Wealth of Nations*, ii., p. 283.)

It is certainly true that, after an artificial system has been long acted upon, its abolition seldom fails of producing considerable temporary embarrassment and hardship; and for this reason no prudent government will ever rashly adopt any measure, how unexceptionable soever in point of principle, that might occasion any immediate and serious injury to a considerable class of its subjects. Every change in the public economy of a great nation ought to be cautiously and gradually effected. Those who have capital employed in businesses carried on under the protection of a restrictive regulation, ought to be allowed a reasonable time and every

facility either to withdraw from them, or to prepare to withstand the free competition of foreigners,—but this is *all* they can justly claim. The fact of a departure having been made, on one or more occasions, from the sound principle of the freedom of industry, can never be alleged as a sufficient reason for obstinately persevering in a course of policy which has been ascertained to be most inimical to the public interests, or for refusing to embrace the earliest opportunity of reverting to a better system. To act on such a principle would be to perpetuate the worst errors and absurdities, and would be a proceeding utterly inconsistent with all the ends and objects of government.

It is but seldom, however, that governments have been open to the accusation of too hastily reverting to the sound principle of a free trade. They have, for the most part, been a great deal too prone to listen to the sophisms and misrepresentations of those who, in order to bolster up some particular privilege, exaggerate the loss that necessarily follows the repeal of every prohibitive regulation. We deprecate all rash and capricious innovations; but we are not to reject an obvious improvement because a few individuals have, or, which is perhaps the most common case, believe they have, an interest in supporting the established order of things. The business of government is to make the interests of the few submit to those of the many; nor is there either sense or humanity in continuing to inflict an injury on the public, that a limited number of individuals may profit by a really disadvantageous business. This, however, has hitherto been the favourite policy of this and most modern nations; and no one, unless pretty conversant with the history of our commercial legislation, would easily imagine the extent to which this perverse practice is carried, and what a trifling amount of individual gain is admitted as a counterpoise to a heavy national loss. 'We submit to a loss exceeding probably a million sterling a year, occasioned by the restriction on the importation of Baltic timber, and voluntarily inoculate our houses with dry rot, lest saw-mills in Canada, and ships in the North American timber trade, the aggregate value of which does not amount to a million sterling, should become less productive to their owners. We prohibit sugar refined in the colo-

nies, and consequently import it in a state more bulky and more perishable, lest the profits of a few sugar-refiners should be lessened. Other selfishness may be as intense; but none is so unblushing, because none is so tolerated, as that of a monopolist claiming a vested interest in a public injury.' (*Senior's Lectures on the Mercantile Theory*, p. 46.)

But without dwelling on such glaring instances, it is abundantly certain that the loss and inconvenience resulting from changes of commercial policy have been grossly exaggerated. All the great branches of industry carried on in every country depend on peculiarities of soil or climate, or on the genius of the people, and not on custom-house regulations. What should we have to fear from the abolition of all prohibitions? We export the produce of every one of our principal manufactures, as cotton, wool, iron, leather, &c., to every market of the world; so that the possibility of their being injured by the admission of similar articles from abroad is quite out of the question. Admitting, however, that the abandonment of the protective system might force a few thousand workmen to abandon their employments, it is material to observe that *equivalent new ones* would, in consequence, be opened to receive them, and that the aggregate demand for their services would not be in any degree diminished. Suppose that, under a system of free trade, we imported a part of the silks and linens we now manufacture at home, it is quite clear, inasmuch as neither the French nor Germans would send us their commodities gratis, that we should have to give them an equal amount of British commodities in exchange: so that such of our artificers as had been engaged in the silk and linen manufactures, and were thrown out of them, would, in future, obtain employment in the production of the articles that must be exported as equivalents to the foreigner. It is idle, therefore, to pretend that the repeal or modification of a restrictive regulation can ever be a means of diminishing the demand for labour. We may, by giving additional freedom to commerce, change the *species of labour* in demand, and make it be employed more profitably, but we cannot lessen its quantity. Should our imports this year amount to ten or twenty millions more than they did last year, we shall, it is certain,

have to pay them by exporting an equally increased amount of our peculiar products. And, therefore, if *exportation* be desirable, and the most ardent admirers of the restrictive system admit it to be such, *importation* must also be desirable—for the two are indissolubly connected; and to separate them, even in imagination, infers a total ignorance of the most obvious principles. Commerce, whether carried on between individuals of the same or of different countries, is founded on a fair principle of reciprocity;—buying and selling are in it what action and reaction are in physics, *equal and contrary*. Those who will not buy from others, render it impossible for others to buy from them. Every sale implies an equal purchase, and every purchase an equal sale. Hence to prohibit buying is exactly the same thing, in effect, as to prohibit selling. No merchant would ever export a single bale of goods, were he prevented from importing a greater value in its stead. But it is impossible he can do this if foreign commodities be excluded. In whatever degree, therefore, an unrestricted trade might lead us to receive commodities from other countries, in the same degree it would render them customers for our commodities, would promote our manufactures and extend our trade. To suppose that commerce may be too free, is to suppose that labour may be turned into too productive channels,—that the objects of demand may be too much multiplied, and their price too much reduced; it is like supposing that our agriculture may be too much improved, and our crops rendered too luxuriant.

It is often affirmed, though we believe without the least foundation for the statement, that had it not been for restrictions on importation, several manufactures that now furnish employment for a considerable population, would, most probably, never have existed amongst us. But supposing this statement to be admitted, it would not form any valid objection to the principles now laid down. It is quite as much for the advantage of communities as of single families, to respect the principle of the division of labour. The interests of every people will always be best promoted by addicting themselves, in preference, to those branches of industry in which they have a superiority over others; for it is by this means only that they can ever fully avail

themselves of their peculiar facilities of production, or employ themselves and their capital most beneficially.

When importation from abroad is restricted that some new or incipient manufacture may be promoted, government assumes, though perhaps unconsciously, that it knows better than its subjects what is the most profitable line for them to engage in. Never was there an assumption more entirely unfounded. Individuals are always on the alert to find out what are the most advantageous businesses in which to embark; and though they sometimes, no doubt, form erroneous conclusions, the chances are ten to one in favour of their being right. Were it otherwise, the number of well-advised and prosperous undertakings entered upon in all tolerably well-governed countries, would not, as is the case, infinitely exceed those of a contrary description. But though it were different, the interference of government would not certainly abate the evil. However well-intended, its attempts to introduce or extend some particular business cannot fail of being productive of immediate injury to others, while the object in view may never be realized; and though realized, it would most probably not be a national benefit, but the reverse. If, instead of directly producing linens, a manufacturer find it more profitable to produce cottons or hardware, and to exchange these with the Germans for linen, how ridiculous would it be to attempt to promote the public interests by shutting out foreign linens, and compelling them to be produced at home! It is not disputed that the linen manufacture might be somewhat promoted by such a measure; but it admits of demonstration that other and more advantageous businesses would sustain a more than corresponding depression. Governments may depend upon the fact, that their subjects are incomparably better informed with respect to these matters than they can ever be. It is not possible for them, do what they will, to interfere to encourage one set of producers, without at the same time, and by the same act, proportionally discouraging some other set. Their obvious duty is, therefore, to abstain from all interference with the legitimate pursuits of individuals. To the clamourers for protection they may always answer, that they would be happy to meet their wishes, provided they could do so

without injuring others, but that that being impossible, they feel themselves bound not to interfere, but to allow every one to reap the profit or abide the loss of the speculations into which he may enter.

We may remark, by the way, that this doctrine has been strongly enforced in an able work published at Berlin, by M. Schmalz, one of the privy councillors of his Prussian majesty. '*Une fabrique véritalement utile, it is there said:— 'n'a pas besoin d'être encouragée ou soutenue par l'état. Il n'est pas nécessaire de stimuler les hommes pour qu'ils cherchent à se procurer un bénéfice quelconque; et toute fabrique qui a besoin, pour se soutenir, que l'état lui accorde un secours, est incontestablement défavorable; car c'est un indice certain qu'elle ne rapporte aucun bénéfice, et que le capital et le travail que l'on y emploie seraient employés plus utilement à tout autre genre d'industrie.'*—(*Economie Politique*, ii. p. 144.)

Obvious as these principles are, the Prussian government has not had good sense enough to act upon them. Singular as it may seem, it is nevertheless true, that it is now, forgetful of what its subjects formerly suffered from the same cause, endeavouring to establish a Prussian, or in other words a 'continental system' in the north of Germany. Napoleon looked upon this system merely as a means of annoying England; but the Prussian cabinet appear to regard it as the most copious source of wealth. They have endeavoured, by means of customs' regulations, to create and extend several branches of industry. The exorbitant duties, for example, which have doubled the price of sugar, have, in Prussia as in France, led to the formation of several establishments for its manufacture from the beet-root. Thus far the system has succeeded; but mark the consequences. The sugar that Prussia imported from the West Indies and Brazil, was principally paid for by shipments of Silesian and Brandenburg linens; and the exportation, and consequently also the production, of these has declined precisely in proportion to the decline in the importations of the article for which they were exchanged! The result, therefore, is that of every shilling expended by the Prussians on sugar, a sixpence goes to enable the beet-root growers to carry on a business which does not pay its expenses; and that every atom of capital, and every

labourer so employed, have been withdrawn from businesses, yielding without any encouragement a handsome profit to the undertaker, and a revenue to the state! Such is the system which Prussia is now labouring to force upon the smaller German states. Can we wonder at their disinclination to receive such a boon?

But it is unnecessary to cross the channel for illustrations of this sort of folly. The advocates of restrictions amongst us contend that the silk-manufacture owes its origin to them; but we take leave to say, that no allegation can be more perfectly ill-founded. The silk manufacture was established many years, had obtained a firm footing, and made a considerable progress, before any one of those regulations to which its rise is ascribed was enacted. But though it were otherwise, what then? Its non-introduction would have been a conclusive proof, either that we had no means of carrying it on as advantageously as others, or that we deemed it better to employ ourselves in those branches in which our superiority was more decided. In neither case would there have been less silk consumed than at present; but we should have obtained it on more advantageous terms; and while the interests of the consumers were thus promoted on the one hand, the interests of the producers would have been still more signally benefited on the other, inasmuch as the capital and labour now employed in the silk manufacture would have been vested in more productive channels.

The remarks now made are decisive with respect to the degree of attention that ought to be given to those who complain of the prevalence of a taste for foreign commodities, and endeavour to catch at a little ephemeral and worthless popularity by recommending the exclusive use of articles produced at home. It is fortunate that these recommendations, even when backed as they have sometimes been by the approval of the court, have generally been treated with merited contempt. Were they universally acted upon, they would annihilate our foreign commerce as effectually as if the country were surrounded by Bishop Berkeley's wall of brass. The truth is, that the individual who consumes nothing that is not imported from abroad, gives, by encouraging exportation, precisely the same stimulus to the industry of his

own country that is given to it by those who consume nothing not directly produced at home. Nothing can be had from foreigners without sending abroad its full equivalent; they are not such simpletons as to supply us gratis with valuable produce; though, if they did, it is not very easy to see how it should injure us. If we wear French cloth, and drink French wine, an equivalent amount of British produce must be sent out of the country to pay for them; nor should we, by ceasing to consume foreign articles, increase in any degree the demand for those produced at home. All that we should do would be to add to the demand for those peculiar sorts of produce, or their substitutes, that had previously been imported from France; and it is as clear as the sun at noon-day, that we could not do this without occasioning an equal falling off in the foreign demand for that sort of British produce that had been exported to pay the French goods, or to obtain the gold and silver with which to pay them.

We borrow from the *Free Trade Advocate*, an American Journal, the following very striking illustration of the principles now advanced:—"Tell me which weighs most, that penknife or those three silver half-dollars," said a gentleman to us the other day. I took them in my hands, and pronounced them to be of equal weight. "That penknife," said my friend, "was made in Pittsburgh. It cost one dollar and a half, and is the product of American industry, which, you see, has given to a little piece of iron and a small piece of buck's horn a value equal to its own weight in silver." All the company present were struck with this apparently irresistible argument in favour of the "American system." That iron ore and horn should be made as valuable as silver, by domestic industry, appeared to be almost incredible; and yet the veracity of the owner of the penknife, admitted no doubt on the subject. Could there be any question as to the benefit which the nation would derive from making its own penknives? seemed to be asked by several of the listeners.

'To meet this cogent fact, which seemed to my friend so conclusive as to the soundness of the restrictive system of policy that he proposed to burn every book on political economy, Adam Smith and all, I also resorted to a fact. I took out of my pocket an English

penknife, of the same weight as the American one, which had also cost a dollar and a half; and, having the two before me, expressed myself somewhat as follows:—"In the Pittsburgh knife I see the representative of a certain portion of American industry. I see the product of the labour of the miner, the coal-heaver, the smelter, the waggoner, the iron-master, the steel-maker, and the cutler. I see that the knife is the result of the combined labour of these and perhaps many others; and I also see that the knife has cost what is precisely equal to the wages of a man for three days, estimating this at fifty cents per day; in other words, I see that in order that the nation should possess that penknife, one man must labour for three days.

"Now in the English knife I also see a portion of American industry. I see in it the product of the labour of the ploughman, the sower, the reaper, the thrasher, the miller, the wood-cutter, the cooper, the waggoner, the factor, the merchant, the ship-builder the rigger, the sail-maker, the ship-smith, the ship-joiner, the plumber, the drayman, the mariner, and a dozen others who are employed in producing wheat, converting it into flour, and in transporting it abroad. All this is American industry, and is *only another mode of making a penknife*. It has, however, the advantage over the first mode. Were it not for the protecting duty, the English knife would cost but one dollar; or, in other words, the nation would procure it by the labour of one man for two days instead of three; and if it be for the interest of each individual that he should procure what he wants with the least possible quantity of labour, so must it be for the interest of *all* individuals, that is, the nation." (Vol. i., p. 238.)

Take, therefore, any case of prohibition that it is possible to suppose: it will be found that, when it is least injurious, its whole effect is to change the natural distribution of capital, and to lessen the demand for one species of produce, to the same extent that it increases the demand for another; and that, in by far the greater number of cases, it has the further effect of increasing the price of the prohibited article, and of imposing a heavy burden on the consumers, or the public, without any countervailing advantage to any one. There is no jugglery in commerce—

no denying of the fundamental principle that to whatever extent we cease buying from the foreigner, we *must*, to the same extent, cease selling to him. To attempt to promote industry by restricting importation, is to attempt to promote it by bolstering up a business not suited to the country, at the expense of one which is. We leave it to others to determine whether such conduct be more discreditable to our intelligence, or prejudicial to our interests.

(2.) Businesses carried on under a system of free competition cannot differ materially, in different countries, in respect of improvement. Where industry is not fettered by artificial systems, every one is exerting himself to improve his peculiar department, and is on the watch that he may learn and profit by the discoveries and inventions of his neighbours. But the moment that any employment is brought within the pale of custom-house regulations, those who carry it on trust to them, and not to their ingenuity. Believing that they have nothing to fear from foreign competition, they become indifferent to what is going on abroad; so that improvements that would otherwise be eagerly adopted and perfected, are either not introduced at all, or not until they have become antiquated.

'The time has been when it was found quite a sufficient reason for imposing a prohibitory duty upon a foreign article, that it was better than we could make at home; but I trust, when such calls are made upon this House hereafter, our first answer at least will be, let us see what can be done by competition; first try to imitate, and by-and-bye, perhaps, you will surpass your foreign rival. *Prohibitions are, in fact, a premium upon mediocrity*:—they destroy the best incentive to excellence—the best stimulus to invention and improvement. They condemn the community to suffer, both in price and quality, all the evils of monopoly, except in as far as a remedy may be found in the baneful arts of the smuggler. They have also another of the great evils of monopoly—that of exposing the consumer, as well as the dealer, to rapid and inconvenient fluctuations in price.'

In the same admirable speech, from which we have borrowed this striking extract, Mr. Huskisson gives the following example, in illustration of the principle he had advanced:—"Soon after the opening of the trade with France, under

Mr. Pitt's treaty, in 1786, French cloths, of a fine quality, were imported in considerable quantity—they were preferred to our own—no fashionable man was to be seen without a coat of French cloth. What followed? In less than two years the cloth of our own manufactures became equal to that imported from France—the one could not be distinguished from the other; and though coats of French cloth were still the fashion, *the cloth of which they were made was manufactured in this country!* In like manner, we shall now, in all probability import some printed cottons from Alsace and Switzerland, of richer and brighter colours than our own; some fancy muslins from India; some silk stuffs, some porcelain from France, objects for which curiosity or fashion may create a demand in this metropolis; but they will not interfere with those articles of more wide and universal consumption, which our own manufacturers supply cheaper and better, whilst they will excite the ingenuity of our artists and workmen to attempt improvements which may enable them to enter the lists with the foreigner in those very articles in which he has now an acknowledged superiority.—(*Speeches*, vol ii. p. 344.)

The silk manufacture affords at once the best example of the pernicious effect of monopoly, and of the wholesome, invigorating influence of competition. Notwithstanding the unparalleled improvement in all other departments, it was affirmed, in 1826, by the Member for Coventry (Mr. Ellice), in his place in the House of Commons, 'that there were in that city 9,700 looms, 7,500 of which were in the hands of operative weavers, who applied their manual labour, as well as their machinery, to the manufacture of ribands. These looms were, for the most part, of the *worst possible construction*; and it would scarcely be believed that the improved loom in France would, in a given time, produce five times as much riband as the common loom in England with the same manual labour! He could also state that there existed an improved manufacture in Germany, by which one man could make *forty-eight times as much velvet as could be made in an equal time by an English machine*. What chance was there that the English manufacturer could maintain such a competition?'

Perhaps these statements may be somewhat exaggerated; though there

can be no doubt that they are, in the main, well-founded. Surely, however, no one believes that the inferiority of the machinery used by the English manufacturers is to be ascribed to anything except that the protection which they enjoyed made them indifferent to improvements. No one believes that the French or Germans are superior to the English in the construction of machines; on the contrary, their inferiority is admitted by themselves, and by everybody else. But if it had been possible previously to entertain any doubt upon the subject, what has taken place since the opening of the ports to foreign silks under a duty of 30 per cent. would have effectually removed it. We do not exaggerate, we only state the plain matter of fact, when we affirm that the silk manufacture has made a more rapid progress during the last five or six years, or since the abolition of the prohibitive system in 1825, than it did during the preceding century. So unprecedented has been its advance, that 'the once existing disparity in quality between goods of French and English make has, with some very unimportant exceptions, not merely disappeared, but actually ranged itself on the side of the British artisan.'—(*Treatise on the Silk Manufacture*, in *Lardner's Cyclopædia*, p. 90.)

Most of the machines and processes known on the Continent, have been introduced amongst us, and many of them have been materially improved. Nor, after what has taken place, can the least doubt remain in the mind of any one, that had the same freedom been given to the silk manufacture fifty years ago that was given to it in 1825, it would now have ranked among the most important and valuable businesses in the kingdom, and would have had nothing whatever to fear from the admission of foreign silks free of duty. We know that it is the opinion of the most intelligent persons in the trade, that the existing duty of 30 per cent. on foreign silks ought to be immediately reduced to 20 per cent.; and that it should be further reduced by 1 per cent. per ann., till it be brought to 10 or 12 per cent., at which it might be allowed to continue stationary, not as a protecting duty, but as a duty imposed for the sake of revenue. A measure of this sort, by increasing fair competition, would continue the impulse already given to the manufacture, and excite to new efforts of in-

vention. Under such a system, we are well assured that, in a very few years, perhaps not more than five or six, our superiority over France, in most departments of the silk manufacture, would be little less decided than in that of cotton.

'I maintain,' said Mr. Poulett Thomson, in his excellent speech on the state of the silk trade (14th of April, 1829),—a speech equally distinguished for soundness of principle and beauty of illustration,—'I maintain, without fear of contradiction, that the very essence of commercial and manufacturing industry is freedom from legislative interference and legislative protection. Attempt to assist its course by legislative enactments, by fostering care, you arrest its progress, you destroy its vigour. Unbind the shackles in which your unwise tenderness has confined it, permit it to take unrestrained its own course, expose it to the wholesome breezes of competition, you give it new life, you restore its former vigour. Industry has been well likened to the hardy Alpine plant: self-sown on the mountain side, exposed to the inclemency of the seasons, it gathers strength in its struggles for existence, it shoots forth in vigour and in beauty. Transplanted to the rich soil of the parterre, tended by the fostering hand of the gardener, nursed in the artificial atmosphere of the forcing-glass, it grows sickly and enervated, its shoots are vigourless, its flowers inodorous. In one single word lies the soul of industry—competition. The answer of the statesman and the economist to his sovereign inquiring what he could do to assist the industry of his kingdom was, "let it take its own way." Such is my prayer. Relieve us from the chains in which your indiscreet tenderness has shackled us—remove your oppressive protection—give us the fair field we ask, and we demand no more. The talent, the genius, the enterprise, the capital, the industry of this great people will do the rest; and England will not only retain, but she will take a yet more forward place in the race of competition for wealth and improvement, which, by the nature of things, she is destined to run amongst the nations of the world. Place us in that condition, not by any violent change, but by slow and easy transition. Here we shall find security for our enterprise, and reward for our labours—

It was not, however, to be supposed, that all departments of the silk manufacture would be equally benefited by the change of system that has taken place—*Non omnia possumus*. The probability is that the trade will in future be divided between the English and French. In point of substantial excellence, the plain silk goods manufactured in England are superior to those of France; and the difference in favour of the latter in point of *finish* is every day becoming less perceptible; while in all mixed manufactures of silk and wool, silk and cotton, silk and linen, &c., our ascendancy is admitted by the French themselves. On the other hand, the ribands, figured gauzes, and light fancy goods manufactured in France, are superior to those of this country. Even in this department we have made a very great progress; and fancy goods are now produced at Spitalfields, Coventry, and other places, contrasting most advantageously, in point of taste and beauty, with those produced previously to the introduction of the new system. Still, however, we are not sanguine in our expectations of our countrymen being able to maintain a successful competition with our neighbours in the manufacture of this class of articles. The greater attention paid to the art of designing in Lyons, the consequent better taste of the artists, and the superior brightness and lustre of their colours, give them advantages with which it will be very difficult to contend.

But, supposing that the trade is partitioned between the two countries in the way now stated, it is easy to see that the best share will belong to us, and that that share will be incomparably more valuable than the whole manufacture formerly was. The proofs of the accuracy of this statement are at hand. Notwithstanding the distress of the riband-weavers of Coventry and a few other places, the manufacture, taken as a whole, is rapidly increasing. The greatest importation of raw and thrown silk that took place in any one year previously to the repeal of the prohibitory system, was in 1823, when 2,432,286 lbs. were imported. But last year, in despite of all the sinister predictions that have been indulged in with respect to the ruin of the manufacture, the imports of raw and thrown silk amounted to 4,693,517 lbs., being nearly *twice the quantity imported when the monopoly was in its vigour!*

'Hic patet ingenilis campis; certusque merenti
Stat favor; ornatur propria industria donis.'

The increase in the exports of wrought silks affords, if possible, a still more decisive proof of the extraordinary improvement and extension of the manufacture. Instead of having anything to fear from the competition of the French at home, we are actually underselling them in the heavier and more important species of goods, in every foreign market equally accessible to both parties. The exports of silks from France have been declining, while those from England have been increasing beyond all precedent. The official value of our exports of silk goods, in 1823, amounted to 140,320*l.*, whereas in 1830, it amounted to 437,880*l.*, being an advance of more than *three hundred per cent.*! Not only therefore are the statements as to the ruin of the silk manufacture proved to be wholly without even the shadow of a foundation, but the anticipations of those who contended that the repeal of the restrictive system would be the commencement of a new era of invention and improvement, have been realized to the utmost extent.

What has now been stated renders it obvious, that though the manufacturers of fancy goods may be obliged to change their employment, a new, and at the same time a more extensive and fruitful field is opened for their exertions. We lament the hardships incident to the transition even from one department of the same business to another, but the suffering thence arising will speedily disappear; and when the change has been effected, the manufacturers will enter with fresh vigour on a new career of prosperity.

It is supposed by many, that the manufacture will ultimately be transferred from Spitalfields to Manchester, Paisley, and other places. We incline to think that this anticipation will be realized, at least to a considerable extent; but if so it will only prove that the places referred to are better adapted for its prosecution than Spitalfields, and consequently that the change is publicly advantageous.

Changes similar to those we have now been considering, are going forward at this moment in other businesses. The pillow-lace manufacturers are in a state of great, and, we are afraid, irremediable distress; but no one pretends to say that it has been occasioned by foreign competition. The Nottingham lace-manufacture, the value of which is now probably not less than *three*

millions sterling annually, has grown up amongst us within the course of the last twenty years. This beautiful fabric is produced at so cheap a rate, that it is exported to every part of the world, and is extensively smuggled into France, superseding the laces for which the northern provinces of that kingdom were long so famous. This novel manufacture, which now affords employment for a large amount of capital, and many thousands of workmen, is wholly the result of inventions and improvements in machinery; and the perfection and cheapness of the goods it affords, by narrowing to a great extent the demand for pillow-lace, has gone far to suspend the production of the latter. But how injurious soever this change may be to many poor persons in Bucks, Bedford, and other counties, that derived a part of their subsistence from pillow-lace working, there can be no question that, in a public point of view, the change will be most beneficial. For every individual thrown out of the old business, two or three have been taken into the new, and are placed in a situation in which, while dexterity in manipulation is of equal value as before, the reward of those who have either sagacity or good fortune to discover more compendious processes, is incomparably greater.

The distress, prevalent in some departments of the silk-trade, springs from a similar cause, and will no doubt be followed by similar results. It is to be regretted that it is not possible either to abandon a routine system, or to introduce new and improved methods of production, without injury to individuals. But because such is the fact—because the bridge cannot be built without displacing watermen, nor the plough introduced without superseding the spade, nor wine brought from abroad without diminishing the demand for ale and beer—is that any reason for proscribing inventions, and denying ourselves gratifications within our reach? To maintain the affirmative, would be evidently absurd,—it would be equivalent to maintaining that the interests of society are best promoted by perpetuating poverty, ignorance, and barbarism! The injury occasioned by the adoption of an improved method of production, or the opening of new markets whence cheaper supplies of any article may be obtained, is temporary only, and affects but a very small portion of the community; while the advantage is permanent, and benefits

every individual, even those who it may, in the first instance, force to resort to other businesses.

Those unacquainted with the history of the silk trade, who may have looked into the pamphlets and speeches of those opposed to the late alterations, will probably be disposed to think that, though more limited in point of numbers, the condition of the workmen engaged in the trade was better previously to 1825, than it has been since. But those who have looked, however cursorily, into the history of the trade, must know that such is not the fact; and that, speaking generally, the situation of those engaged in it has been materially improved since 1825. The fact is, that the silk trade used to be exposed to the most tremendous vicissitudes. In 1793, no fewer than 4000 looms were shut up in Spitalfields only, which, when in full work seven years before, had given employment to 10,000 persons. In 1816, long before a relaxation of the monopoly system had been so much as thought of, the distress in the silk trade was infinitely more severe than it has ever been since the introduction of the new system. In proof of this we may mention that, at a public meeting held for the relief of the Spitalfields' weavers, at the Mansion House, on the 26th of November, 1816, the secretary stated, that *two-thirds* of them were without employment, and without the means of support; 'that some had deserted their houses in despair, unable to endure the sight of their starving families; and many pined under languishing diseases brought on by the want of food and clothing.' And Mr. Fowell Buxton, M.P., stated at the same meeting, that the distress among the silk manufacturers was so intense that '*it partook of the nature of a pestilence*, which spreads its contagion around, and devastates an entire district.' Such was the state of the workmen under that monopoly system that has been the worthless theme of so much recent eulogy. But such, we are glad to say, is not their state at present. The trade being now mostly diverted into those branches in which we have a superiority, is comparatively secure against revulsions; and it would be an absurdity to imagine, that measures that have about doubled the manufacture, should have reduced the rate of wages, or been otherwise than advantageous to the workmen.

(3.) But we have not yet seen the

whole mischief of restrictions. When the importation of a foreign commodity is prohibited, or loaded with a heavy duty, it almost invariably happens, unless the commodity be a very bulky one in proportion to its value, that it is smuggled from abroad. If the prohibition of a foreign commodity took away the taste for it, or disposed any one cheerfully to pay double or treble its former price, the prohibition would be less injurious. Unluckily, however, it has no such effect. On the contrary, it would seem as if the desire to obtain prohibited articles acquired new strength from the artificial obstacles opposed to its gratification. And no one doubts that the desire to obtain them at a cheaper rate, becomes more intense according as their price is raised by the imposition of duties. The legal prohibition of foreign silks that existed previously to 1826, did not hinder their importation in immense quantities. The ingenuity of the smuggler was too many for the vigilance of the Custom-house officer—and at the very moment when the most strenuous efforts were made to exclude them, the silks of France and Hindostan were openly displayed in the drawing-rooms of St. James's, and in the House of Commons, in mockery of the impotent legislation prohibiting their introduction. We doubt, indeed, whether the substitution of the *ad valorem* duty of 30 per cent., in place of the old system of prohibition, has been productive of any materially increased importation of foreign silks. 'I have lately,' said Mr. Huskisson, in his famous speech in vindication of his policy as to the silk-trade, 'taken some pains to ascertain the quantity of smuggled silk that has been seized inland throughout the kingdom during the last ten years, and I find that the whole does not exceed 5000*l.* a-year. I have endeavoured, on the other hand, to get an account of the quantity of silk goods actually smuggled into this country. Any estimate of this quantity must be very vague; but I have been given to understand that the value of such goods as are regularly entered at the custom-houses of France for exportation to this country, is from 100,000*l.* to 150,000*l.* a-year; and this, of course, is exclusive of the far greater supply which is poured in throughout all the channels of smuggling, without being subjected to any entry. In fact, to such an extent is this illicit trade carried, that there is scarcely

a haberdasher's shop in the smallest village of the United Kingdom, in which prohibited silks are not sold; and that in the face of day, and to a very considerable extent.

'The Honourable Member for Coventry (Mr. Ellice) has mentioned the silk goods from India as those against which anything but prohibition would prove an unavailing protection. Now, in my opinion, it is scarcely possible to conceive a stronger case than those very silks furnish, against the Honourable Member's own argument. I believe it is universally known, that a large quantity of Bandana handkerchiefs are sold, every year, for exportation, by the East India Company. But does any gentleman suppose that these Bandanas are sent to the Continent for the purpose of remaining there? No such thing! They are sold at the Company's sales to the number of about eight hundred thousand or a million a-year, at about four shillings each. They are immediately shipped off for Hamburg, Antwerp, Rotterdam, Ostend, or Guernsey, and from thence they nearly all illicitly find their way back to this country.

'Mark, then, the effect of this beautiful system:—these Bandanas, which had previously been sold for exportation, at four shillings, are finally distributed in retail to the people of England, at about eight shillings each; and the result of this prohibition is to levy upon the consumer a tax, and to give those who live by evading your law, a bounty of four shillings upon each handkerchief sold in this country!'—(*Speeches*, Vol. II., p. 510.)

Indeed, one of the principal objections to the present duty of 30 per cent. on foreign silks, is, that it is high enough to enable a considerable smuggling trade to be still carried on,—the facility for smuggling being increased by means of the legalised importation. A duty of 12 or 15 per cent. would not, however, be so high as to balance the risks run in smuggling, and would, therefore, really afford the manufacturer a more efficient protection than he derives from the existing duty; at the same time, that it would place all classes of dealers on the same footing; whereas, the advantage is, at present, on *the side of those who engage in fraudulent schemes.*

But the duties of 600 or 700 per cent. on tobacco, and of 400 or 500 per cent. on foreign brandy and Geneva, are the grand incentives to smuggling. Have

these exorbitant duties taken away the taste for the articles on which they are imposed? No such thing. Their only effect has been to convert a trade that would otherwise have been productive of the most advantageous results, into a most prolific source of crime and demoralization. The temptation to smuggle, occasioned by the oppressiveness of the duties, is too overpowering to be counteracted by the utmost threatenings of the law. The coast-guard, and the preventive water-guard, the expense of which is little, if anything, under 500,000*l.* a-year, are kept up for no other purpose than to hinder the importation of foreign tobacco, brandy, and Geneva. But though they were doubled, they would be ineffectual for their object. At this moment it is believed that a third of all the tobacco consumed in Ireland is supplied by the illicit trader. And on the coasts of Kent and Sussex, the districts in England most favourably situated for smuggling, almost the whole body of labourers are, every now and then, withdrawn from their accustomed employments, to engage in this destructive practice. It is hardly possible to exaggerate the mischievous consequences of this state of things. It has rendered smuggling, though probably the most direct road to the gallows, a favourite occupation; and procured for the smuggler, even when soiled with the blood of some revenue officer, the public sympathy and support. Thousands of individuals, who, but for this moral contamination, would have been industrious and virtuous, have become predatory and ferocious; they have been taught to despise the law, and to regard its functionaries as enemies, whom it is meritorious to assault.

It has been said, that this 'abominable system'—for so it is properly characterised by Mr. Huskisson (*Speeches*, vol. ii. p. 343)—is upheld for the sake of revenue; but this is false: it has been shown, again and again, that the revenue would be greatly increased by reducing the duties to a third or a fourth part of their present amount. Admitting, however, that fiscal rapacity and ignorance may claim the credit of having imposed a duty of 700 per cent. on tobacco, the still more objectionable duties on brandy and Geneva were originally imposed, and are still kept up, as mercantile regulations, as a means of compelling the consump-

tion of a few thousand extra gallons of beer, porter, and British spirits; and to compass *this* end, we scruple not to subject our commerce with foreign countries to ruinous restrictions; to demoralize our population; to fill our courts with perjury and chicanery, and to render our coasts the scene of sanguinary contests! We admit the effect of interest in perverting the judgment even of the most conscientious persons; but we doubt whether any one, however largely engaged in the distillery, or in the beer and porter manufacture, was ever so far blinded by selfish feelings as to have no misgivings in contending that duties productive of such effects are publicly advantageous.

(4.) In addition to their other injurious effects, restrictions render the businesses carried on under their protection peculiarly liable to gluts and revulsions. Steadiness of price is always proportioned to the extent of the field whence supplies may be derived, and in which they may be disposed of. A manufacture not suited to the country, and depending on a prohibition for its existence, is necessarily limited by the extent of the home market. When the demands of the domestic consumer are satisfied, it has reached the utmost limits to which it can attain; for it would be idle to think of entering the foreign market in competition with those who carry on their business under more favourable circumstances. But when, in such a case, a change of fashion, or any other cause, occasions a decline in the demand for an article, there being no means of disposing of the surplus abroad, its price is unnaturally depressed, and the producers become involved in bankruptcy and ruin; whereas, had the article been produced under a free system, a falling off in the home demand would have been of trifling consequence, inasmuch as the surplus might have been sold, at a comparatively small reduction of price, in other countries.

It is of importance to observe, that the same results are sure to follow, though not so immediately, from an increase of the demand for any article produced under a monopoly, as from its diminution. A statement of this sort may seem, to those not conversant with such subjects, to be contradictory; but such is not the case. The inevitable effect of an increase of demand, even in the most extensive businesses, is to

attract so much capital to them as not only to furnish an adequate supply of the article in unusual demand, at the old prices, but to glut the market, and sink prices below their ordinary level. And the more limited the market, the sooner, of course, is this reaction brought about.

The history of the corn trade, since the restrictive system was fully applied to it in 1815, furnishes convincing proofs of the truth of what has now been stated. We have had the most extraordinary alternation of periods of high and low prices; the one being the invariable forerunner of the other! And it is easy to see that it could not be otherwise. The restriction on importation, by raising our average prices decidedly above the level of those of the Continent, renders exportation, in an abundant year, all but impossible; so that prices, in such seasons, sink below the cost of production. But this fall cannot continue; for, the distress thence arising, by depressing the agriculturists and lessening the quantity of land in tillage, again leads to high prices; which, in their turn, lead to a renewed extension of cultivation, and a renewed fall the moment the harvest happens to be unusually luxuriant! Hence, in its application to agriculture, the prohibitive system is productive at one moment of scarcity, and at another of a glut; it hinders alike the supply of a deficiency, and the removal of a surplus; and has actually had power to render the bounty of Providence an injury to the farmer!

(6.) The pressure of taxation has often been alleged as an excuse for restrictions on commerce; but, though more plausible, perhaps, it is not more valid than the rest. Taxation may be heavy, and even oppressive; but so long as it is fairly assessed, it equally affects all branches of industry, and consequently affords no ground whatever for the enactment of regulations intended to protect a single business. If, however, any particular article were more heavily taxed than others, a duty corresponding to the *excess* of duty falling upon such article ought to be imposed on its importation from abroad, not as a measure of protection, but of justice; for otherwise, those engaged in its production would not be placed in the same situation as others, and would have good ground for complaining of unfair treatment—of their being disabled, by the

peculiarly heavy taxes laid on them, from withstanding the competition of foreigners. So long, however, as taxation is impartial, as it presses with the same intensity on every class, all are placed in the same condition in respect of burdens, and none has any better right than another to complain of foreign competition. And it is surely unnecessary to say, that to propose to protect *all* businesses would be absurd. When a protection is granted to one class, they gain, for a while at least, a trifling advantage, at the expense of those whose produce was sent abroad to pay the foreign articles excluded by the protection. But universal protection would be neither more nor less than universal injury. Without being of the slightest advantage to any one, it would have the same mischievous influence on every department of industry that a particular restriction has on a single business. It would secure the home producers a monopoly of the home market; and would, consequently, in a great measure, put an end to that competition and emulation which are the grand sources of improvement. And if the protection were extended to businesses that *might* be carried on at home, as well as to those that are actually carried on, it would entirely extinguish foreign commerce, and throw us back into that state of poverty and barbarism from which we have only escaped by its powerful aid.

The same is true of comparatively high wages as of comparatively high taxes. They fall equally on the undertakers of all sorts of businesses. They do not bear more heavily on the manufacturers of silk and linen than on those of cloth and hardware; and if the former are to be protected because wages are high, the same protection must be granted to the latter, and not to them only, but to every other class, so that commerce would be wholly proscribed.

The fallacy of the plea set up for restrictions, on the ground now mentioned, may be set in a different point of view. It is said, that unless they were imposed, foreigners, having the advantage of low taxes and low wages, would gain an ascendancy in our markets, and glut them with products. But such statements carry with them their own refutation. We must never forget that commerce is nothing but an exchange of commodities; and that it is not possible to import either a great or

a small quantity of foreign produce, without making an equivalent exportation of some species of home produce. The foreigner *must* buy from us to the same extent that we buy from him. And although, under a free system, some businesses might suffer, a proportional extension would be given to others that are more advantageous, and the capital and industry of the country would be turned into the channels in which they would be at once most secure and most productive. But suppose that, owing to high wages, high taxes, or any other cause, our products become higher priced than those of the foreigner, no regulations would then be required to shut the latter out of our markets. They will not, we may depend upon it, continue to be sent to us after we have become unable to pay them—that is, to furnish the foreigners with equivalent articles on more advantageous terms than they can supply themselves elsewhere. It is nugatory, therefore, to talk about protecting our manufacturers, agriculturists, &c., on the ground of their being disabled, by the heaviness of their burdens, from entering into competition with foreigners. Were such really their situation, they would enjoy, what Custom-house regulations can never afford, an absolute monopoly of the home market! Foreigners will never be found in countries where they can procure nothing cheaper than at home. They resort to those only where they are able to sell with advantage, or, in other words, where they find that abundance of commodities, suitable for their markets, may be had at comparatively low prices.

We have argued this point as if the assumption, that our taxes and wages are such as to lay our manufacturers under a relative disadvantage, were really well founded; and we have shown that it would, notwithstanding, be absurd to attempt to advance their interests by prohibitory enactments. We, however, are very far, indeed, from believing that the supposed disadvantage really exists. 'I know,' said Mr. Huskisson, 'it may be objected, that a great change has taken place in the situation of the British manufactures since the French treaty of 1786,—that we have been engaged in a long and expensive war, and that we have now to support the weight of a great many new and heavy taxes. I admit that such is the case: other countries, however, have

not been exempted from the calamities of war; their taxes, too, have been increased; their burdens made to press more heavily. What is still more mischievous, in most of those countries, their commercial and manufacturing establishments have felt more directly the ravages and interruption of war; many of them have been violently swept away, whilst the capitals which they had called forth, if not confiscated, have been impaired or diminished by the exactions of military power. In this country no such calamity has been experienced. The trading capital of England remains entire; even during the war, it continued constantly increasing; and in respect to the comparative cheapness of labour in foreign countries, although by no means an immaterial part of the present consideration, it is not alone sufficient, as experience has shown, to make the balance preponderate in their favour. Since the invention of the steam-engine, coupled with the application of so many other discoveries, both in mechanical and chemical science, to all the arts of life, the mere estimate of manual labour is lost sight of, in comparison with that of the creative powers of mind. It is the union of those powers, and the great capitals which call them into action, which distinguishes British industry, and has placed it in the commanding situation which it now holds in the world. To these advantages are joined that energy and continuity of enterprise, that perseverance and steadiness of exertion, which, even by our rivals, are admitted to belong to the English character. It is upon these qualities, and these advantages, much more than upon any system of bounties and protecting duties, that I rely with confidence for the maintenance and improvement of the station which we now occupy among the trading communities of the world.—(*Speeches*, Vol. II., p. 346.)

But we doubt whether, in point of fact, we, as a commercial people, labour under any disadvantage arising out of comparatively heavy taxes or high wages. As respects the former, it is the practice, whenever a commodity is about to be exported, to allow the exporter a drawback equivalent to the various duties that have been paid upon it; so that however these may affect the consumers at home, they have no influence on its price when exported. Wages, if estimated by the day, are perhaps higher in Great Britain than in most European

countries; but this is no test of their real comparative magnitude. The question is not, whether wages estimated by the day, the week, or the month, be higher in Manchester or Rouen, but whether a *given quantity of work* costs more in the former than in the latter; for, it is plain that greater skill, dexterity, or perseverance on the part of workmen may more than balance a considerable apparent excess of wages. And such we are assured, by the highest practical authorities, is really the fact; and that when wages are estimated not by time, but by the quantity of work done, they are *decidedly lower* in England than in any continental state.

But it is useless to enlarge on what is so obvious. Every one knows that there is not so much as the shadow of a foundation for the statement that our manufacturers have anything to fear from foreign competition. How, if such were the case, do we contrive to export and sell with advantage British produce of the value of no less than *thirty-six* or *forty* millions? It is really too much, when our manufactures are in demand everywhere from China to Peru, to attempt to vindicate a ruinous and oppressive system of policy, on pretence of protecting them against foreign competition!

(6.) However much the apologists of restrictive regulations may be inclined to dispute the policy of purchasing commodities in the cheapest markets, they have not presumed to question the advantage of selling those we have to dispose of in the dearest markets. They would, however, do well to recollect, that it is not possible to sell in the latter without buying in the former. An article sells at a high price when a comparatively large supply of something else is got in exchange for it, and conversely. Suppose that by sending a certain quantity of cottons or hardware to Brazil, we get in return 150 hogsheads of sugar, and that the same quantity of cottons and hardware, if sent to Jamaica, would only exchange for 100 hogsheads, is it not obvious that by preventing the importation of the former, we force our goods to be sold for *two-thirds* of the price they would otherwise have brought? It might as well be contended, that things that are equal to the same thing are *unequal*, as that a system productive of such results is a means of increasing public wealth.

It would be useless to dwell at any greater length on this part of our subject. Restrictions intended to promote domestic industry have, in *all* cases, a directly opposite effect. They change the natural distribution of capital; force it into less profitable channels, encourage smuggling, and increase hazard. There is hardly, in fact, an evil incident to commercial speculation, of which they are not productive. The mischief too which they occasion is pure and unalloyed with a single countervailing advantage. They are as impotent to protect as to promote. Were they carried to their full extent—to the extent to which they ought to be carried were they really bottomed on sound principles—they would extinguish commerce and the arts, and reduce mankind to primæval barbarism.

II.—We think the foregoing conclusions must carry conviction to the mind of every unprejudiced reader; but as the subject is so very important, we shall, at the risk of being deemed tedious, endeavour to strengthen them still further by showing what have been the effects, on a large scale, of the practical working of the protective system. In France it has been carried to an extent, and enforced with a steadiness of purpose, not often paralleled; and we defy any one to show that it has had a single beneficial result. It has, no doubt, bolstered up a few branches of industry, for the prosecution of which France has no natural advantage, and in which she must always be inferior to others; but it has at the same time done the most serious injury to all the great sources of her wealth, to all those great branches of industry in which she has no equal. It has deprived her of all her peculiar advantages, and has given her nothing in return that she had not better be without.

France is not only extremely well situated for carrying on an extensive intercourse with foreign countries, but she is largely supplied with several productions which, were her commerce unfettered, would meet with a ready and advantageous sale abroad, and enable her to furnish equivalents for the largest amount of imports. The superiority enjoyed by Amboyna in the production of cloves is not more decided than that enjoyed by France in the production of wine. Her claret, burgundy, champagne, and brandy, are unrivalled, and furnish of themselves the materials of a

vast commerce. Indeed the production of wine is, next to the ordinary business of agriculture, by far the most extensive and valuable branch of industry in France. It is estimated by the landholders and merchants of the Gironde, in the admirable *Pétition et Mémoire à l'Appui* presented by them to the Chamber of Deputies in 1828, that the quantity of wine annually produced in France, amounts, at an average, to about forty millions of hectolitres, or 1060 millions of gallons; that its value is not less than from 800 to 1000 millions of francs, or from thirty-two to forty millions sterling; and that upwards of three millions of individuals are employed in its production. In some of the southern districts it is of paramount importance. The population of the Gironde, exclusive of Bordeaux, amounts to 432,839 individuals, of whom no fewer than 226,000 are supposed to be directly engaged in the cultivation of the vine.

Here then is a branch of industry in which France has no competitor, which even now affords employment for about a tenth part of her population, and which is susceptible of indefinite extension. The value of the wines, brandies, vinegars, &c., exported from France at an average of the three years ending with 1790, amounted to about fifty-one millions of francs, or upwards of two millions sterling. The annual exports of wine from Bordeaux only exceeded 100,000 tuns; and as the supply of wine might be increased to almost any amount, France has, in this single article the means of carrying on the most extensive and lucrative commerce. '*Le gouvernement Français,*' says M. Chaptal, in his work *Sur l'Industrie Française*, '*doit les plus grands encouragemens à la culture des vignes, soit qu'il considère ses produits relativement à la consommation intérieure, soit qu'il les envisage sous le rapport de notre commerce avec l'étranger, dont il est en effet la base essentielle.*'

But instead of labouring to extend this great branch of industry, government has consented to sacrifice it to the interest of a few individuals engaged in businesses which cannot be prosecuted except at a heavy loss. During the ascendancy of Napoleon, or rather during the period of the continental system, France being thrown, as it were, upon her own resources, was obliged directly to produce several articles she had pre-

viously been in the habit of importing from abroad. Among others may be specified iron and sugar. Owing to the want of good coal mines, and improved means of communication, France can never expect to produce iron at the same rate at which it may be produced in England or Sweden; but being obliged, during the annihilation of her foreign trade by the anti-commercial policy of Napoleon to produce it at whatever cost, the iron trade was greatly extended, and many new furnaces were opened. The same was the case with the manufacture of beet-root sugar. Under ordinary circumstances it would not have been attempted; but during the continental system, when colonial sugar was selling at Paris for about *ten* times its ordinary price, many beet-root establishments were formed. As soon, however, as peace had been restored, and the ancient channels of commerce with France were re-opened, it was obvious that those businesses that had either grown up, or been unnaturally extended during the suppression of all intercourse with foreigners, would be swept off. In such a case, perhaps, government would have been warranted in making, not a compensation, but a *donation* to the sufferers. But the ministers of the restored dynasty did not view the new establishments in this light. They did not consider them as exotics that had grown up in hot-beds and under glasses, and had no real root in the soil, but as indigenous plants which, with a little more forcing, might be rendered healthy and luxuriant. They, therefore, determined, at all hazards, to avert the destruction of the businesses in question; and, in attempting to do this, carried the anti-commercial system to an extent Napoleon had never dreamed of. To bolster up the beet-growers and iron-founders, they did not scruple to sacrifice the interest of the wine and brandy growers, and the silk-manufacturers—policy about as wise as if the British government were to seek to advance the interests of the copper-plate engravers by the ruin of the woollen or cotton trade. We do not, indeed, suppose that the ministers of Louis believed that this would be the effect of their measures. Theirs is only one instance among thousands that might be specified to prove that ignorance in a minister is hardly less injurious than bad intentions. They seem to have supposed that impossibilities

might be reconciled, and that foreign markets might be opened for the reception of the products of France, though the ports of France were shut against the importation of commodities from the foreigner. Government seems never to have made the reflection, apparently not a very recondite one, that notwithstanding the bounty of nature, wine was not gratuitously produced in France, and could not therefore be exported but for an equivalent. But those whose interests were at stake did not fail to apprise them of the hollowness of their system. In 1814 and 1822, when cottons and woollens were excluded, and enormous additions made to the duties on foreign iron, sugar, linens, and most other products, the merchants of Bordeaux, Nantes, Marseilles, and other great commercial cities, and the wine-growers of the Gironde, and some other departments, presented petitions to the Chambers, in which they truly stated, that it was a contradiction and an absurdity to attempt selling to the foreigner without, at the same time, buying from him; and expressed their conviction that the prohibitions and duties in question would be fatal to the commerce of France, and ruinous to the wine-growers and silk-manufacturers. These representations did not, however, meet with a very courteous reception. They were stigmatised as the work of ignorant and interested persons. The Chambers approved the policy of ministers, or, which is the same thing, they decided that the public interests would be best promoted by securing a trifling advantage to 80,000 or 100,000 persons, though, in doing so, they might have foreseen, and were forewarned, that they could not fail of deeply injuring *three or four millions!* The event has shown that the anticipations of the merchants were but too well founded. There is a discrepancy in the accounts laid before the late *Commission d'Enquête* by the French government, and those given in the above-mentioned *Pétition et Mémoire à l'Appui* from the Gironde. According to the tables printed by the *Commission* the export of wine from France is, at this moment, almost exactly the same as in 1789. It is, however, plain, that, had there not been some powerful counteracting cause in operation, the export of wine ought to have been very greatly augmented. The United States, Russia, England, Prussia, and all those

countries which have at all times been the great importers of French wines, have made prodigious advances in wealth and population since 1789; and had the commerce with them not been subjected to injurious restrictions, there is every reason to think that their imports of French wine would have been much greater now than at a former period.

But the truth is, the accounts laid before the *Commission* are entitled to extremely little credit. In so far as respects the exports of wine from Bordeaux, which has always been the great market for this species of produce, the statements in the *Mémoire à l'Appui* are taken from the Custom-house returns. Their accuracy may, therefore, be depended upon; and they show an extraordinary falling off. Previously to the Revolution, the exports amounted to 100,000 tuns a year (*Peuchet, Statistique Élémentaire*, p. 138); but since 1820 they have only been as follows:—

1820 . . .	61,110 tuns.
1821 . . .	63,244
1822 . . .	39,955
1823 . . .	51,529
1824 . . .	39,625
1825 . . .	46,314
1826 . . .	48,464
1827 . . .	54,492

It is also stated that a large proportion of these exports has been made on speculation; and that the markets of Russia, the Netherlands, Hamburgh, &c. are glutted with French wines, for which there is no demand. 'Dans ce moment,' (25th April, 1828,) it is said in the *Mémoire*, 'il existe en consignment à Hambourg, 12,000 à 15,000 barriques de vin pour compte des propriétaires du département de la Gironde, qui seront trop heureux s'ils ne perdent que leur capital.'

This extraordinary decline in the foreign demand has been accompanied by a corresponding glut of the home market, a heavy fall of prices, and the ruin of a great number of merchants and agriculturists. It is estimated that there were, in April, 1828, no fewer than 600,000 tuns of wine in the Gironde, for which no outlet could be found; and the glut in the other departments is said to have been proportionally great. The fall in the price of wine has re-acted upon the vineyards, most of which have become quite unsaleable, and a total stop has been put to every sort of im-

provement. Nor have matters been the least amended during the current year; on the contrary, they seem to be gradually getting worse. Such is the poverty of the proprietors, that wine is now frequently seized and sold by the revenue officers in payment of arrears of taxes; and it appears, from some late statements in the *Mémorial Bordelais* (a newspaper published at Bordeaux), that the wine so sold, has not recently fetched more, at an average, than two thirds of the cost of its production!

Such are the effects that the restrictive system of policy has had on the wine trade of France—on a branch of industry which, we have already seen, employs *three millions* of people. It is satisfactory, however, to observe that the land-owners and merchants are fully aware of the source of the misery in which they have been involved. They know that they are not suffering from hostile or vindictive measures on the part of foreigners, but from the blind and senseless policy of their own government; that they are victims of an attempt to counteract the most obvious principles—to make France produce articles directly at home, which she might obtain from the foreigner in exchange for wine, brandy, &c., at a third or a fourth part of the expense they now cost. *They cannot export, because they are not allowed to import.* Hence, they do not ask for bounties and prohibitions; on the contrary, they disclaim all such quack nostrums, and demand what can alone be useful to them—a free commercial system.

'Considéré en lui-même,' say the land-owners and merchants of the Gironde, 'le système prohibitif est la plus déplorable des erreurs. La nature dans sa variété infinie, a départi à chaque contrée ses attributs particuliers; elle a imprimé sur chaque sol sa véritable destination, et c'est par la diversité des produits et des besoins qu'elle a voulu unir les hommes par un lien universel et opérer entre eux ces rapprochemens qui ont produit le commerce et la civilisation.'

'Quelle est la base du système prohibitif? Une véritable chimère, qui consiste à essayer de vendre à l'étranger sans acheter de lui.'

'Quelle est donc la conséquence la plus immédiate du système prohibitif, ou, en d'autres termes, du monopole? C'est que le pays qui est placé sous son empire ne peut vendre ses produits à l'étranger.'

Le voilà donc refoulé dans lui-même ; et à l'impossibilité de vendre ce qu'il a de trop vient se joindre la nécessité de payer plus cher ce qui lui manque.

Notre industrie ne demandoit, pour fructifier, ni la faveur d'un monopole, ni cette foule d'artifices et de secours dont bien d'autres ont imposé le fardeau au pays. Une sage liberté commerciale, une économie politique fondée sur la nature, en rapport avec sa civilisation, en harmonie avec tous les intérêts véritables ; telle étoit son seul besoin. Livrée à son essor naturel, elle se seroit étendue d'elle-même sur la France de 1814, comme sur celle de 1789 ; elle auroit formé la plus riche branche de son agriculture ; elle auroit fait circuler et dans son sol natal, et dans tout le sol du royaume, une sève de vie et de richesse ; elle auroit encore attiré sur nos plages le commerce du monde ; et la France, au lieu de s'ériger avec effort en pays manufacturier, auroit reconquis par la force des choses une supériorité incontestable comme pays agricole.

Le système contraire a prévalu.

La ruine d'un des plus importants départemens de la France ; la détresse des départemens circonvoisins ; le dépérissement général du midi ; une immense population attaquée dans ses moyens d'existence ; une capital énorme compromis ; la perspective de ne pouvoir prélever l'impôt sur notre sol appauvri et depouillé ; une préjudice immense pour tous les départemens dont nous sommes tributaires ; une décroissement rapide dans celles de nos consommations qui profitent au Nord ; la stagnation générale du commerce, avec tous les désastres qu'elle entraîne, toutes les pertes qu'elle produit, et tous les dommages ou matériels, ou politiques, ou moraux qui en sont l'inévitable suite ; enfin l'anéantissement de plus en plus irréparable de tous nos anciens rapports commerciaux ; les autres s'enrichissant de nos pertes et développant leur système commerciale sur les débris du nôtre ;

Tels sont les fruits amers du système dont nous avons été les principales victimes.

Such is the well-authenticated account laid before the Chamber of Deputies, by 12,563 land-owners and merchants of Gironde, of the *practical* operation and real effect of that very system of policy which, extraordinary as it may seem, has been held up for imitation to the Parliament of England !

The effect of this system upon the silk

trade of France, the most important branch of her *manufacturing* industry, and one in which she had long the superiority, is similar, and hardly less destructive. Her prohibitions have forced others to manufacture for themselves, so that the foreign demand for silks is rapidly diminishing. It is stated, in *Observations Adressées à la Commission d'Enquête*, by the delegate of the Chamber of Commerce of Lyons, that the silk manufacture is in the worst possible state. 'Ce qui doit surtout exciter,' he observes 'la sollicitude du gouvernement et le décider à entrer dans nos vues, c'est l'état déplorable, alarmant de la fabrique de Lyon : les quatre années de 1824 à 1827, offrent, sur les quatre années précédentes un déficit qui excède 150 mille kilog. : pour les seules expéditions d'Allemagne l'année 1828 et l'année courante 1829 nous donnent une progression décroissante plus effrayante encore.'—(p. 11.) It is further stated, in a report by the manufacturers of Lyons, that there were 26,000 looms employed in that city in 1824, while at present (1830) there are not more than 15,000. The competition of Switzerland and England has been chiefly instrumental in producing these effects. At Zurich, where there were only 3,000 looms employed in 1815, there were last year more than 5,000 ; and at Eberfeld, where there were none in 1815, there are now above 1,100. Switzerland is said to have in all, upwards of 10,000 looms employed at this moment in the manufacture of plain broad silks.

Besides the injury done to the wine trade of France by her anti-commercial system, it has been much injured by the *octrois*, and other duties laid on wine when used for home consumption. These, however, have been modified since the accession of Louis Philippe ; and it is reasonable to suppose, that the facts now disclosed, as to the ruinous operation of this system, the example of the more liberal policy that has been recently shewn by England, in the repeal of the odious discriminating duties on French wines, and the more general diffusion of correct ideas with respect to the real sources of wealth, will, at no distant period, cause the adoption of such changes in the commercial legislation of France, as may render it more conducive to her interest, and more in accordance with the spirit of the age. If we were hostile to France, we should wish her to continue the present system ; but we

disclaim being actuated by any such feelings. We are truly anxious for her prosperity, for her sake and our own; for every thing that contributes to her prosperity, must, in some degree, redound to the advantage of her neighbours. Whatever France, or any country, may hope to gain by commerce, must be combined with, and in proportion to, the beneficial effects that flow from it to those who, by their wants or superfluities, their productions, natural or artificial, have either to give or to receive from her. The advantages of commerce cannot be monopolized; and those who cultivate it with the greatest success, are the greatest benefactors of mankind.

The operation of the prohibitive system in America has been similar. Notwithstanding the unprecedented progress of the United States in wealth and population, their foreign trade has been nearly stationary for the last ten years! And yet, considering the spirit of commercial enterprize by which the people, particularly in the New England States and New York, are animated, and their skill in navigation, it might have been fairly presumed that the growth of their foreign trade would at least have kept pace with the development of the internal resources of the country. That it has not done so, is wholly owing to the policy of Government. Not satisfied with the extraordinary advances their constituents had made in numbers and wealth, congress seems to have believed that their career might be accelerated by means of custom-house regulations!—by giving an artificial direction to a portion of the public capital and industry, and turning it into channels into which it would not naturally flow.

No one who has the slightest acquaintance with the condition of America,—who knows that she is possessed of boundless tracts of fertile and unappropriated land,—that her population is comparatively thin, and wages high,—can doubt that agriculture *must*, for a long series of years, be the most profitable species of employment in which her citizens can engage. There can be no question, indeed, that such branches of manufacture as are naturally adapted to her peculiar situation, will gradually grow up and flourish in America, without any artificial encouragement, according as her population becomes denser, and the advantage which now exists on the side

of agriculture becomes less decided. But to force, by means of duties and prohibitions, the premature growth of manufactures, is plainly to force a portion of the industry and capital of the country into businesses in which it will be *least* productive.

Such, however, has been the policy of the American legislature. The exploded sophisms of the mercantile system, though renounced by every statesman in Europe, have acquired a noxious influence in congress, and been put forth with as much confidence as if their soundness neither had been, nor could be questioned. From 1816 downwards, the object of the American legislature has been to bolster up a manufacturing interest, by imposing oppressive duties on most manufactured articles imported from abroad. Now, it is obvious, even were the articles produced in America through the agency of this plan as cheap as those they have superseded, that nothing would be gained by it; for to whatever extent the importation of foreign articles may be diminished, there must be a corresponding diminution in the exportation of native American products; so that the only result would be the raising up of one species of industry at the expense of another species, entitled to an equality of protection. But the 'American system' has not been so innocuous. Instead of the goods manufactured in the States being as cheap as similar ones manufactured in Europe, they are admitted to be, at an average, from 30 to 100 per cent. dearer! The extent of the pecuniary sacrifice that is thus imposed on the Union, has been variously estimated by American writers; but we have been assured, by those who have the best means of knowing, that it may be moderately estimated at from 50,000,000 to 60,000,000 dollars, or from about 11,000,000% to 13,000,000%. And this immense burden,—a burden nearly *three* times as great as the whole public expenditure of the republic, is incurred for no purpose of public utility, and is productive of nothing but mischief. The whole effect of the scheme is to divert a certain amount of the national capital from the production of cotton, wheat, rice, tobacco, &c. (the equivalents sent to foreigners in payment of manufactured goods), to the direct production of these goods themselves! And as the latter species of industry is nowise suitable for America, a tax of 13,000,000% is imposed on the Union,

that the manufacturers may continue a losing business. We shall not undertake to decide whether the absurdity of this system, or its costliness, be its most prominent feature.

But the pecuniary sacrifice arising out of a policy of this sort, is really the least part of the injury it occasions. Besides forcing a large portion of the national capital and industry into comparatively barren channels, it has raised up so many conflicting pretensions, and led to such a disunion of interests, as threatens to be, in no common degree, injurious to the public tranquillity, and may even seriously endanger the stability of the Union. That its influence has not been more injurious, is solely owing to the smuggling it has occasioned. With a frontier like that of America, and a half or more of the population hostile to the tariff, it would be worse than absurd to suppose that it could be carried into full effect. But it has enough of influence to render it in the last degree prejudicial—to occasion a great rise in the price of many important articles—to cripple the trade and navigation of the country—and to throw a considerable part of it into the hands of foreigners and outlaws, who carry it on in defiance of the law.

We entertain too favourable an opinion of the Americans, to suppose that such a system can be permanent. It has been established in opposition to the wishes of all but a majority of Congress, is exceedingly unpopular in the southern States, and generally throughout the Union, and has been repeatedly condemned by committees of the legislature. In an able report by a committee of the House of Representatives, dated 8th of February, 1830, it is said,—‘We had before us the prospect of a long and general peace, and our policy should have been regulated accordingly. Our revenue laws should have been restored gradually, but decisively, to their condition previously to the war. Our policy unfortunately took another direction. The tariff of 1816 laid the foundation of all our subsequent errors, and we have now been engaged for fifteen years in an unprofitable experiment, to effect what embargo, non-importation, non-intercourse, and war, failed to accomplish. We have attempted, by the mere force of congressional decrees, to resist the natural and salutary tendency of our industry to commercial and agricultural pursuits. We have been steadily sacrificing the commerce, navigation, and capital of

New England, merely to bring forward new competitors in manufacturing, to embarrass our old and skilful artisans, and to ruin ourselves. We have, from session to session, kept trade in such agitation and uncertainty, that the value of property could never be ascertained till the adjournment of Congress, and this we have called encouraging and protecting our industry! We have wasted millions of our ancient profits of commerce in a visionary experiment to increase our national wealth. In a legislative attempt to make ourselves more completely independent of other nations, we have effectually undermined the foundation of that naval power which can alone protect our country from foreign aggression.’

There is no exaggeration in this statement, and we shall not do the Americans the injustice of supposing that they will blindly continue to uphold a system of policy founded on the most erroneous principles, and productive only of such pernicious results. The concluding paragraph in the Report now referred to, deserves to be quoted:—

‘The wise and benevolent plans of Mr. Pitt and Mr. Jefferson, in Europe and America, were frustrated by the wars which succeeded the French Revolution, and put an end to all commercial reform. The restrictions of war naturally superseded the friendly reciprocity of peace. But now that peace is restored among nations, your Committee propose to renew, in a form modified to suit the present state of our investments and laws, the same liberal commercial policy which was recommended by such illustrious authority before the European wars. The honour of effecting this revolution in the commerce of the world is peculiarly the office of a country enjoying, in all other respects, the largest share of civil and religious freedom. It will be a proud honour for our Republic to enlarge the intercourse and diffuse its liberal principles among nations; to moderate stubborn jealousies by hospitable associations, to increase the comforts and double the resources of knowledge; and to spread the light of knowledge and civilization in every quarter of the globe. We are bound by every consideration at least to make the experiment. The liberal character of our institutions, the federal form of our government, the immeasurable extent of our country, the vast surplus and variety of its productions, the imperative

necessity of renovating our navigation, and of enlarging our commercial marine, the preservation of the harmony of our union, the improvement of the condition of mankind, nay, every consideration, pleads in favour of a policy so essential to perfect that plan of liberal government which is the proud ornament and substantial blessing of the present age of the world.'

III.—*Operation and Influence of Restrictions originating in Political Motives.*—Restrictions on the commercial intercourse between different nations have not always originated in mistaken notions with respect to the precious metals, nor in a desire to advance the interests of the home producer. A considerable number owe their existence to more patriotic, though, as they seem to us, equally mistaken views—to the wish to render ourselves independent of foreign supplies, to avert the prohibitions of foreign states by retaliatory proceedings, and to provide for our security by encouraging such businesses as may contribute to the national defence, though they should be less profitable than others.

(1.) There is something very seductive in the idea of independence; and it is not surprising that a system of policy which promises to place a country in this enviable situation, should have many votaries. But independence rests on far other foundations than the miserable machinery of custom-house regulations. We should not call an individual who had his shoes, coats, hats, &c., manufactured in his own house, more independent than an individual possessed of equal fortune who bought them of the shoemaker, the tailor, the hatter, &c. Independence does not depend exclusively on the power of being able directly to supply our own wants by the produce of our own labour; but it depends indifferently either on the power to do this, or on the power to furnish an equivalent for the various necessities and conveniences we may wish to obtain; and it is admitted on all hands that those who apply themselves to a particular calling or occupation, will enjoy a greater command over the necessities and conveniences of life, through the intervention of an exchange with others, or, in other words, will be more independent than if they directly produced all the articles for which they have a demand. The same is the

case with nations. We import cotton from America, timber from the north of Europe, and claret from France; but the fact of our doing this shows that we send commodities to those countries on which they set a higher value. We are not, therefore, in any respect more dependent on them than they are on us; and if we understand by independence the power to supply our wants without being under an obligation to any other people, we are completely independent. The commercial intercourse we carry on with foreigners, like that which we carry on with each other, is bottomed on the principle of mutual convenience: we give and receive equivalents; we supply reciprocal wants, and confer reciprocal benefits.

To wish to be wholly unconnected with foreigners, and at the same time to continue as rich and prosperous as ever, is to wish what is contradictory and absurd. It is equivalent to wishing that we had the soil and climate of China to produce tea, those of France to produce wine, and those of America to produce cotton. These, and thousands of equally useful and desirable products, can only be obtained through an exchange with the foreigner. We may no doubt become independent even of this exchange; but if we do, we must submit to be independent of that wealth and power to which commerce has raised us. The individual who prefers swimming across the river, is, of course, independent of the bridges, in the same way that the nation who should prefer poverty and barbarism to wealth and refinement would be independent of foreign commerce. But this is the independence of the savage. To be truly independent, in the enlarged, and, if we may so speak, civic sense of the term, that is to have the greatest possible command of the necessities and conveniences of life, a nation must avail itself of the productive energies of every other people, and deal with all the world on fair and liberal principles.

Nations, like individuals, are very apt to be influenced by feelings of animosity. Having experienced the injury arising from the prohibitory enactment of some foreign power, we naturally endeavour, in the irritation of the moment, to retaliate by a similar prohibition directed against some branch of its commerce. We seldom take time to reflect upon the probable influence of this prohibition upon ourselves; but enact it in the

belief that, however it may affect us, it will, at any rate, inflict a much more serious injury on those against whom it is directed.

The history of commerce is full of instances of this sort. By the famous French Tariff of 1664, very high duties were imposed on a great number of foreign manufactured articles. The Dutch, whose commerce was seriously affected by these duties, endeavoured to prevail on M. Colbert, then minister of France, to reduce them in their favour; and, on his refusal, they prohibited the introduction of the wines, brandies, and manufactures of France into the territories of the republic. The war of 1672 was mainly occasioned by this dispute; and after six years of hostilities, and the expenditure of vast quantities of blood and treasure, the French consented to moderate their tariff in favour of the Dutch, and the Dutch took off their prohibition. In 1699 the English government prohibited the importation of bone-lace manufactured in Flanders, and the government of that country instantly retaliated by prohibiting the importation of English woollens. In a few years afterwards, both parties found it to be for their advantage to replace the trade on its former footing. The commerce between this country and France has been completely sacrificed to this jealous and vindictive spirit. Louis XIV. having espoused the cause of the exiled family of Stuart, the British government, in the irritation of the moment, and without reflecting that the blow aimed at the French would infallibly recoil upon themselves, imposed, in 1693, a discriminating duty of 8*l.* a tun on French wine, and in 1697 increased it to 33*l.* Unhappily the provisions in the Methuen treaty gave permanence to this impolitic system, which the French were not slow to retaliate. Custom-house regulations were used by both parties as a species of warlike engines: a prohibition on the one side was instantly met by a counter prohibition on the other, until the commerce between the two countries—a commerce which, had it not been violently interfered with, would have afforded a profitable field for the employment of millions upon millions of capital, and thousands upon thousands of individuals—has been almost wholly suppressed. In other quarters, too, the effects of this vindictive spirit have been, and are exceedingly powerful; and

the high duties laid on many articles of British manufacture by the late American and Russian Tariffs are avowedly intended to serve as a retaliation for the high duties we have imposed on corn, timber, tallow, and other articles, the product of America and Russia.

At the same time, however, it must be admitted that a retaliatory prohibition may not always be inexpedient. If there be apparently good grounds for thinking that a prohibition will so distress those against whom it is levelled, as to induce them to withdraw or materially modify the prohibition or high duty, it is intended to avenge, it may be good policy to enact it. The recovery of an extensive foreign trade, or the permanent relief of commerce from a vexatious restraint, might more than balance the additional inconvenience to which every nation must in the mean time infallibly expose itself, when it enacts one prohibition or restriction in retaliation of another. But unless there be reasonable grounds for concluding that, by retaliating, the repeal or modification of the original prohibition will be procured, it would be most impolitic to embark in any such hostile course. If the prohibition acted only upon others, it would be different; but as the benefits of commerce are reciprocal,—as we neither sell nor buy, except to promote our own interest, when we prohibit this intercourse we necessarily injure ourselves, probably too to a much greater extent than we injure others. It is clear, therefore, that to enact or maintain a prohibition when there is no prospect of its occasioning the repeal or modification of that enacted by the foreigner, is a proceeding directly at variance with every sound principle. A regard to his own advantage will always dictate to every dispassionate individual the policy of purchasing his goods in the cheapest and best market, and why should the conduct of states be different? The French government has been unwise enough to prevent the introduction of English cottons and hardware into France, and has, consequently, forced its subjects to misemploy a large amount of capital, and to purchase inferior articles at a higher price than they would have obtained them for had they been allowed to buy them from us. But surely it is unnecessary to say that this is a line of conduct that ought to be *carefully avoided*, not followed. A foreign go-

vernment does an injury to its subjects by making them pay an artificially enhanced price for their cottons and hardware; but is that any reason for the government of England doing the same?—for its compelling us to pay an artificially enhanced price for corn, wine, and brandy? To act in this way is not really to retaliate on the French, but on ourselves! It is erecting the blind and ferocious impulses of revenge into maxims of state policy. Our business is not to inquire where our neighbours buy the produce they consume, but to buy that for which we have a demand wherever it can be obtained for the lowest price. Foreigners will hardly refuse to *sell*, and as there can be no selling without an *equal buying*—no *exportation* without an *equal importation*,—by acting on a liberal system ourselves, we shall not only reap a very great immediate advantage, but shall most probably lead others to abandon their restrictions.

The late equalization of the duties on French and other wines may, we hope, be looked upon as the commencement of a new era in the commerce between this country and France. Every one who contrasts the two kingdoms—who compares their peculiar products and capacities of production—must be satisfied that nothing but the removal of oppressive duties and restrictions is necessary to the growth of the most extensive and mutually beneficial intercourse between them. We, therefore, most sincerely rejoice in the prospect that is now afforded of an end being put to that miserable system, which has so long deprived two great nations of the inestimable advantages each might derive from dealing with the other on a liberal footing. The British government, we feel assured, will not rest satisfied with what it has done to bring about so desirable a result; but will follow up the abolition of the discriminating duty on French wine, by the effectual reduction of the exorbitant duties on brandy, fruits, verdigris, linen, and other articles of French produce. A regard to our own interest requires that we should do this. This, fortunately, is a case in which we may gain, while it is not possible we can lose anything by doing what is right. If the French will not deal with us, that is, if they will not admit our hardware, cottons, and other products into their markets, the loss will be theirs, not ours; they will render it impossible for

us to buy from them, and they will be guilty of the extraordinary folly of *voluntarily* excluding themselves from the markets of the richest country in the world! But we anticipate no such result. It would be a libel on the people and government of France to suppose that they should not perceive the absurdity of such conduct, or that they should be insensible to the advantages to be derived from meeting the liberal conduct of this government in a corresponding spirit. Hitherto they have met with nothing but disappointment and bankruptcy from their efforts to give effect to the prohibitive system; and such is the only harvest it will ever yield either to them or any other people. They have now the opportunity of escaping from it with *honour* as well as advantage.—Surely they will not throw it away.

With respect to restrictions imposed for the sake of national security, or the annoyance of some hostile power, we may observe, speaking generally, that their influence has been very much exaggerated. If a single nation had the absolute monopoly of any article that was necessary either to its own defence, or to the defence or well-being of others, it might, by prohibiting the exportation of such article, provide at once for its own security, and at the same time inflict a serious injury on its enemies. But it is doubtful whether there be any such commodity in existence. We, for example, are not masters of a single product, the prohibition of the exportation of which would not be far more injurious to ourselves than to any one else. And of all the commodities that we import, there is not one, with perhaps the single exception of tea, which, supposing its exportation were restricted by any foreign power in one quarter of the globe, we might not obtain from some other power, either in the same or some other quarter. The prohibition of the export of tea by the Chinese might oblige us to import a larger quantity of coffee; the prohibition of the export of cotton by the North Americans would make us increase our imports of the same article from Brazil, the Levant, and the East Indies; and the prohibition of the export of corn from one country, supposing we might freely import that article, would merely occasion an increased importation from other places. The commercial commonwealth is now of too vast an extent, and the political

views and biases of its rulers too various and discordant, to admit of any thing like concert or combination ever obtaining amongst them. If the usual channels of commercial intercourse be choked or obstructed on one side, it will force a passage for itself in some other quarter. The products of art and industry are too widely diffused to be materially affected by the monopoly or hostility of any single state. Though one country should not deal with us, there is no cause for alarm; some other will certainly be less scrupulous, and will be glad to have the opportunity of 'supplying us with whatever we want. Nothing, therefore, can be a greater error than to imagine that, in the present state of the world, the security of any particular country, or her means of defence or aggression, can be materially increased by prohibitory regulations. The nature of the warlike implements made use of, and of the contests carried on in modern times, have occasioned an expense that can be defrayed only by the outlay of vast sums. There is no longer any doubt of the proposition that money is the sinews of war. That the wealthiest nation is *ceteris paribus*, decidedly the most powerful. Those who possess wealth in sufficient quantities, will never want for 'man and steel, the soldier and his sword;' they have a talisman by which they may cover the land with armies and the ocean with fleets, and against whose powerful influence the purest patriotism and the most unflinching courage will with difficulty struggle. But when such is the case, when it is universally admitted that wealth is the main source of power and influence, and when it admits of demonstration, that a free and extended commerce is the most prolific source of wealth, what can be more contradictory than to attempt to increase the defence or security of a country by enacting measures that must necessarily restrict and fetter its commerce? The possession of wealth is the best security; and as the freedom of commerce is, of all others, the most efficacious means of increasing wealth, it follows that those who are exerting themselves to give every facility to commerce, are at the same time exerting themselves in the most effectual manner to add to the power and independence of the country; and it also follows that the apologists and defenders of restrictions and prohibitions are, though probably without

knowing it, labouring to sap the foundations of our power, and to cast us down from our high place amongst the nations of the earth.

The navigation-laws have been more generally approved than any of the other regulations imposed for the sake of security. The object of these laws was not only to prohibit foreign vessels from engaging in the coasting trade, but to hinder all importations from foreign countries, except in British ships, or in the ships of the country or place whence the goods were exported. This provision was levelled against the Dutch, who had but little native produce to export; but who, by superior economy and skill, had notwithstanding succeeded in engrossing a large share of the carrying trade of Europe. 'When,' says Dr. Smith, 'the act of navigation was made, though England and Holland were not actually at war, the most violent animosity subsisted between the two nations. It had begun during the government of the long parliament, which first framed this act, and it broke out soon after in the Dutch wars, during that of the Protector and of Charles II. It is not impossible, therefore, that some of the regulations of this famous act may have proceeded from national animosity. They are as wise, however, as if they had all been dictated by the most deliberate wisdom. National animosity, at that particular time, aimed at the very same object which the most deliberate wisdom would have recommended, the diminution of the naval power of Holland, the only naval power which could endanger the security of England. The act of navigation is *not favourable to foreign commerce, or to the growth of that opulence which can arise from it*. The interest of a nation in its commercial relations to foreign nations is, like that of a merchant with regard to the different people with whom he deals, to buy as cheap and sell as dear as possible. But the act of navigation, by diminishing the number of sellers, must necessarily diminish that of buyers; and we are thus likely not only to buy foreign goods dearer, but to sell our own cheaper, than if there was a more perfect freedom of trade. As defence, however, is of much more importance than opulence, the act of navigation is, perhaps, the wisest of all the commercial regulations of England.'—(Vol. ii., p. 293.)

It may, however, be very fairly

doubted whether, in point of fact, the navigation-law had the effects here ascribed to it, of weakening the naval power of the Dutch, and increasing that of this kingdom. The Dutch were very powerful at sea for a long period after the passing of this act; and it seems natural to conclude that the decline of their maritime preponderance was owing rather to the gradual increase of commerce and navigation in other countries, and to the disasters and burdens occasioned by the ruinous contests the republic had to sustain with Cromwell, Charles II., and Louis XIV., than to the mere exclusion of their merchant vessels from the ports of England. It is not meant to say that this exclusion was altogether without effect. The efforts of the Dutch to procure a repeal of the English navigation-law, show that, in their apprehension, it operated injuriously on their commerce*. It is certain, however, that its influence in this respect has been greatly overrated in this country. *Excessive taxation*, and not our navigation-law, was the principal cause of the fall of profits, and the decline of manufactures, commerce, and navigation in Holland. 'Les guerres,' says the well-informed author of the *Commerce de la Hollande*, 'terminées par les traités de Nimègue, de Ryswick, d'Utrecht, et enfin la dernière par le traité d'Aix-la-Chapelle, ont successivement obligé la République de faire usage d'un grand crédit, et de faire des emprunts énormes pour en soutenir les frais. Les dettes ont surchargé l'état d'une somme immense d'intérêts qui ne pouvoient être payés que par une augmentation excessive d'impôts dont il a fallu faire porter la plus forte partie par les consommations dans un pays qui n'a qu'un territoire extrêmement bonné, et par conséquent par l'industrie. Il a donc fallu faire enchérir infiniment la main-d'œuvre. Cette cherté de la main-d'œuvre a non seulement restreint presque toute sorte de fabrique et d'industrie à la consommation intérieure, mais elle a encore porté un coup bien sensible au commerce de fret, partie accessoire et la plus précieuse du commerce d'économie; car cette cherté a rendu la construction plus chère, et augmenté le prix de tous les ouvrages des ports et des magasins. Il

n'étoit pas possible que l'augmentation de prix de la main-d'œuvre ne donnât, malgré tous les efforts de l'économie Hollandoise, un avantage sensible aux autres nations qui voudroient se livrer au commerce d'économie et à celui de fret.'—(Tome ii., p. 211.)

This extract, which might, were it necessary, be corroborated by others to the same effect from all the best Dutch authors, shows that the decline of the commerce and maritime power of Holland is not to be ascribed to our navigation-law, or the restrictive regulations of other powers, but to the abuse of the funding system, and the excess of taxation. Neither does it appear that the opinion of Dr. Smith and others, that the navigation-law contributed powerfully to augment the naval power of this country, rests on any better foundation. The taste of the nation for naval enterprise had been awakened; the navy had become exceedingly formidable, and Blake had achieved his victories before the enactment of this famous law. So far, indeed, is it from being certain that the navigation act had, in this respect, the effect commonly ascribed to it, that there are good grounds for thinking that its influence was really opposite, and that it operated rather to diminish than to increase our mercantile navy. It is stated in Roger Coke's *Treatise on Trade*, published in 1671, that this act, by lessening the resort of strangers to our ports, had an injurious effect on our commerce; and he further states, that we had lost, within two years of the passing of the act of 1650, the greater part of the Baltic and Greenland trades, (p. 48.) Sir Josiah Child, whose treatise was published in 1696, corroborates Coke's statement; for while he decidedly approves of the navigation-law, he admits that the English shipping employed in the Eastland and Baltic trades had decreased at least *two-thirds* since its enactment, and that the foreign shipping employed in these trades had proportionally increased.—(Child's *Treatise on Trade*, p. 89.—*Glasgow Edition*.)

Exclusively of these contemporary authorities, Sir Mathew Decker, an extensive and extremely well-informed merchant, condemns the whole principle of the navigation act, and contends that, instead of increasing our shipping and seamen, it had diminished them both; and that, by rendering the freight of ships higher than it would otherwise have been, it had entailed a heavy burden on

* In the Treaty of Breda, agreed upon in 1667, between the States-General and Charles II., the latter undertook to procure the repeal of the navigation-law, but the subject was never agitated in either House of Parliament.

the public, and been one of the main causes that had prevented our carrying on the fishery so successfully as the Dutch.—(*Essay on the Causes of the Decline of Foreign Trade*, p. 60, edit. 1756.)

It would, perhaps, be going too far to say that we owe the American war to the navigation-laws; but we believe the attempts to enforce their provisions upon the colonists, contributed quite as much as the attempts to subject them to taxation, to accelerate that contest. There is a paragraph on this subject in one of Mr. Huskisson's speeches, which merits the attention of those who would form a fair estimate of the real influence of the navigation-laws:—

'If the proceedings of the government of this country, after the peace of 1763, be closely examined, we shall find that many of the causes which, ten years afterwards, led to the unfortunate rupture with our then colonies, now the United States of America, may be traced to our unreasonable attempts to enforce, in their most rigid and exclusive application, our colonial and navigation system. Every complaint, every petition, every remonstrance, against the oppressive tendency and vexatious consequences of that system, on part of the inhabitants of New England,—every temperate effort made by them to obtain some slight relaxation of the trammels that shackled their disposition to engage in commercial enterprise, were only met, on the part of the British Government, by a constant succession of new laws, enforcing still more restrictive regulations, framed in a spirit of still more vexatious interference. One instance of the character of that legislation will be sufficient; and I give it as a slight specimen of the commercial jealousy which prevailed in our councils in reference both to the colonies and to Ireland.

'A ship from our American possessions, laden with their produce, was stranded on the coast of Ireland. It will naturally be supposed, that the cargo was landed, and the ship repaired, in that country. No such thing. The law compelled the owners to send another English ship from England, for the purpose of bringing away the cargo,—a cargo which, not improbably, might then be wanted in the Irish market, and which was, perhaps, destined to be ultimately consumed there, after having been transhipped in a port of that country, landed in an English port, and again reshipped to Ireland.

'This is a sample of the real grievances under which our American colonies laboured. Such a state of law could not fail to engender great dissatisfaction and much heartburning. It is generally believed, that the attempt to tax our American colonies, without their consent, was the sole cause of their separation from the mother-country. But if the whole history of the period between the year 1763, and the year 1773, be attentively examined, it will, I think, be abundantly evident, that, however the attempt at taxation may have contributed somewhat to hasten the explosion, the train had been long laid, in the severe and exasperating efforts of this country to enforce, with inopportune and increasing rigour, the strictest and most annoying regulations of our colonial and navigation code. Every petty adventure in which the colonists embarked, was viewed by the merchants of this country, and the Board of Trade of that day, as an encroachment on the commercial monopoly of Great Britain. The professional subtlety of lawyers, and the practical ingenuity of custom-house officers, were constantly at work in ministering to the jealous but mistaken views of our sea-ports. Blind to the consequences elsewhere, they persevered in their attempts to put down the spirit of commercial enterprise in the people of New England, until these attempts roused a very different spirit,—that spirit which ventured to look for political independence from the issue of a successful rebellion.

'The result is well known. The country found itself engaged in a civil war. That war, in its progress, involved us in the greatest difficulty and embarrassment. It was terminated by submitting to humiliations such as, I trust to God, the Crown of Great Britain will never again be exposed to.—(*Speeches*, Vol. III. p. 8.)

These statements cannot be questioned; and they are, at all events, sufficient to show that the assertions of those who contend that the navigation-laws had a prodigious effect in increasing the number of our ships and sailors, and in augmenting the power of the country, must be received with considerable distrust. But suppose that all that has been said by the apologists of these laws were true to the letter;—suppose it were conceded that, when first framed, the act of navigation was politic and proper, that would afford but a very slender presumption in favour of the policy of

supporting it in the present day. Human institutions are not made for immortality. They must be accommodated to the varying circumstances and exigences of society. But the situation of Great Britain, and most other countries, has totally changed since 1650. The envied wealth and commercial greatness of Holland have passed away. We have no longer anything to fear from her hostility; and 'he must be indeed strangely influenced by antiquated prejudices and bygone apprehensions, who can entertain any of that jealousy from which the severity of this law originated.' London has become what Amsterdam formerly was, the grand emporium of the commercial world—*universi orbis terrarum emporium*: and the real question which now presents itself for consideration is, not what are the best means by which we may rise to naval greatness, but what are the best means of preserving that undisputed pre-eminence in maritime affairs to which we have attained?

Now it does not really seem that there can be much difficulty in deciding this question. Navigation and naval power are the children, not the parents—the effect, not the cause—of commerce. If the latter be increased, the increase of the former will follow as a matter of course. More ships and more sailors become necessary, according as the commerce between different and distant countries is extended. A country situated like Great Britain in the reign of Charles II., when her shipping was comparatively limited, might perhaps be warranted in endeavouring to increase its amount, by excluding foreign ships from her harbours. But it is almost superfluous to add, that it is not by such regulations, but solely by the aid of a flourishing and widely-extended commerce, that the immense mercantile navy we have now accumulated can be supported.

But it is extremely easy to show that to have continued to enforce the provisions of the old navigation-law in the present state of the world, would have been amongst the most efficient means that could have been devised for the destruction of our commerce. The wealth and power to which Great Britain has attained, has inspired other nations with those feelings of envy, jealousy, and hatred that the wealth of Holland formerly generated in our minds. Instead of ascribing our commercial and manufacturing superiority

to its true causes—to the comparative liberality of our institutions, the absence of all oppressive feudal privileges, the security of property, the fairness of our system of taxation, and the freedom of internal industry, our foreign rivals contend that it has been entirely owing to our exclusive system; and appeal to our example to stimulate their respective governments to adopt retaliatory measures, and to protect them against British competition. These representations have already had the most injurious operation. Nor can there be a doubt that, had we continued to maintain our illiberal and exclusive system, and refused to set a better example to others, we should have run a very great risk of falling a victim to the vindictive spirit which such short-sighted and selfish policy would have generated.

Besides the regulations already alluded to, it had been a part of our policy to encourage the employment of our shipping by imposing higher duties on commodities imported into our harbours in foreign vessels, and to burden the latter with higher port and lighthouse duties. This practice was always loudly complained of by foreigners; but we had little difficulty in maintaining it, so long as the state of our trade enabled us to disregard the retaliatory measures of other powers. But the extraordinary increase that has taken place, since the commencement of the late war, in our manufactures for foreign consumption, and the necessity under which we have in consequence been placed, of conciliating our customers abroad, have led to the adoption of what has been called the *reciprocity system*. This system was first introduced into the trade with the United States. After the North Americans had succeeded in establishing their independence, they set about framing a code of navigation laws on the model of those of this country. Among other regulations of a restrictive character, it was enacted, that all foreign vessels trading to the United States should pay half a dollar, which was afterwards raised to a dollar, per ton duty, beyond what was paid by American ships; and further, that goods imported in foreign bottoms should pay a duty of 10 per cent. over and above what was paid on the same description of goods imported in American bottoms.

This law was avowedly directed against the navigation of Great Britain, though, as it was founded on the same principles

as our navigation-laws, from which the States had formerly suffered so much, we could not openly complain of its operation. Under these circumstances, it would have been sound policy to have at once proposed an accommodation; and instead of attempting to meet retaliation by retaliation, to have offered to modify our navigation-law, in so far as American shipping was concerned, on the Americans making reciprocal modifications in our favour:—a different course was, however, followed. Various devices were resorted to for counteracting the navigation system of the Americans, without in any degree relaxing our own; but they all failed of their object; and at length it became obvious that we had engaged in an unequal struggle, and that the real effect of our policy was to give a bounty on the importation of the goods of other countries into the United States, to the exclusion of our own goods and ships. In consequence, a conviction of the necessity of making concessions began to gain ground; and it was ultimately fixed, by the commercial treaty negotiated with the United States in 1815, that *equal charges* should be imposed on ships of either country in the ports of the other, and that *equal duties* should be paid upon all articles, the produce of the one country, imported into the other, whether such importation was effected in British or American ships.

The principle of reciprocity having been conceded in the case of the United States, whose commercial marine is second only to that of Great Britain, it was not possible to avoid acting on the same principle, in the case of such European countries as might choose to admit our ships into their ports on a footing of equality. By the fourth section of the Act 6th Geo. 4. cap. iii. it is enacted, that his Majesty may, by an order in council, admit the ships of foreign states into our ports, on payment of the like duties that are charged on British vessels, provided that British vessels are admitted into the ports of such foreign states, on payment of the like duties that are charged on their vessels. The first demand of this sort was made, on the part of the Prussian government, which issued an order in council on the 20th of June, 1822, making large additions to the port-dues charged on all ships belonging to those nations which did not admit Prus-

sian ships on a footing of reciprocity. The real object of this order was to injure the navigation of this country; and it was speedily found that it had the desired effect, and that its operation on British shipping was most pernicious.

Under these circumstances, the British merchants and ship-owners immediately applied to our government for relief. 'We were assailed,' says Mr. Huskisson, 'with representations from all quarters connected with the shipping and trade of the country, against the heavy charges imposed upon British ships in the ports of Prussia. In such circumstances, what course did his Majesty's government take? I had a conference with the Prussian minister at this court, and I well recollect the substance of his reply to me: "You have," he said, "set us the example by your port and light charges, and your discriminating duties on Prussian ships, and we have not gone beyond the limits of your example. Hitherto we have confined the increase of our port and tonnage charges to ships only; *but it is the intention of my government next year, (and of this he showed me the written proof,) to imitate you still more closely, by imposing discriminating duties on the goods imported in your ships.* Our object is a just protection to our own navigation; and so long as the measure of our protection does not exceed that which is afforded in your ports to British ships, we cannot see with what reason you can complain."

'Against such a reply, what remonstrance could we, in fairness, make to the Prussian government? We might have addressed ourselves, it may be said by some, to the friendly feelings of that government;—we might have pleaded long usage in support of our discriminating duties;—we might have urged the advantages which Prussia derived from her trade with England. Appeals like these were not forgotten in the discussion; but they were of little avail against the fact, that "the Prussian ship-owners were all going to ruin."

'By others, it may be said, your duty was to retaliate, by increasing your own port charges and discriminating duties, on Prussian shipping. I have already stated my reasons against the policy of this latter course. We were not prepared to begin a system of commercial hostility which, if followed up on both sides, could only tend to reciprocal prohibition. In this state of things, more

prudently as I contend, we entered upon an amicable negotiation with the Prussian government upon the principle of our treaty with the United States,—that is, of abolishing on both sides, all discriminating duties on the ships and goods of the respective countries in the ports of the other.

‘Having concluded an arrangement with Prussia upon this basis, we soon found it necessary to do the same with some of the other northern states. Similar conventions were accordingly entered into with Denmark and Sweden—reciprocity is the foundation of all those conventions; but it is only fair to add, that they contain other stipulations for giving facility to trade, and from which the commerce of this country, I am confident, will, in the result, derive considerable advantage.’—(*Speech, May 12th 1828, on the State of the Shipping Interest.*)

This statement shows conclusively that the establishment of the reciprocity system with Prussia, Sweden, &c., as to which so violent a clamour was raised, was not a measure of choice, but of necessity. We could not afford to hazard the exclusion of our manufactures from a country into which they are annually imported to the extent of *several millions*. So long as the Prussians, Swedes, Danes, &c., chose to submit to our system of discriminating duties, without retaliating, it was no business of ours to tell them that that system was illiberal and oppressive. But when they found this out without our telling them, and when they declared that unless we modified our restrictions, they would retaliate on our commerce, and either entirely exclude our commodities from their markets, or load those that were imported in British ships with prohibitory duties, should we have been justified in refusing to come to an accommodation? Were we to sacrifice the substance to the shadow? To turn away some of our best customers, because they chose to stipulate that the intercourse between them and us should be conducted either in their ships or in ours, as the merchants might think best? Our government had only a choice of difficulties; and they wisely preferred a system which has preserved free access for the English manufacturer to the markets of Prussia, and to the English ship-owners an equal chance with the Prussian, of being employed in the traffic between the two countries, to

a system that would eventually, and at no distant period, have put an end to that mutually beneficial intercourse, which it had already subjected to serious difficulties.

It is said, indeed, by the shipowners and others opposed to the late alterations, that the Prussians and other northern nations build, man, and victual ships, cheaper than we can do; and that the ultimate effect of the reciprocity system will consequently be to give them a decided superiority in the trade. But admitting this statement to be true, still, for the reasons already given, it is pretty evident that the policy we have pursued was, under the circumstances of the case, the best. If we had not consented to the establishment of the reciprocity system, we must have submitted to be entirely excluded from the markets of the United States, Prussia, &c. In grasping at what was beyond [our reach; we should thus have lost what we were already in possession of. We should not only have injured our shipowners by getting them forcibly excluded from the ports of many great commercial states, but we should have done an irreparable injury to our manufacturers,—a class which, without undervaluing the shipowners, is, in point of wealth and numbers, of at least twenty times more importance than they. Although, therefore, no doubt could be entertained with respect to the statements as to the comparative cheapness of foreign shipping, that would be no good objection to the measures recently adopted. But there are good grounds for thinking that these statements either are wholly without foundation, or are, at all events, very much exaggerated. In comparing the cost of British and foreign shipping, it is usual to estimate it by the tonnage, but this is a very false criterion; for while foreign ships are accurately measured, our ships are measured so that a vessel of 150 tons register generally carries 220 tons of a mixed cargo; and a vessel registered at 400 tons seldom carries less than 600 tons. In fact, such is the extreme inaccuracy of our mode of measuring, that we are informed by Sir John Hall, the very intelligent secretary of the St. Catherine's Dock Company, that he has known a ship put into dock for the purpose of being raised upon so as to increase her stowage, measure less after she had acquired the capacity of carrying 100 tons additional, than she did before going into

dock! Sir John Hall further states, that in estimating the expense of English, Dutch, French, and most foreign ships together by the ton, we ought to deduct nearly a half from the first, in order to get the true comparative cost of each.—(*Hall, on the Warehousing System and Navigation Laws*, p. 31.)

There is in the Report already referred to, of the Committee of the House of Representatives of the United States, a detailed statement of the duties levied here and in America on the materials consumed in building and rigging a ship of 500 tons' burden, which shows that those charged in the United States exceeded by 1665 dollars those charged in this country; and no one doubts that the wages of American are as high as those of British seamen.—(*Report, &c. Appen.*, p. 47, American ed.)

It is generally believed that ships built in the ports of the Baltic will not last the time, nor bear the wear and tear of British ships. It is certain, too, that Prussian ships are more heavily masted and rigged, and require larger crews than ours; and the rate of insurance here is much cheaper. The difference in the cost of provisions must be immaterial; for in all distant ports our ships procure provisions and stores of all sorts at the same rate as the foreigner. On the whole, therefore, it would appear that the alarm with respect to the supposed decay of our shipping is altogether imaginary. We believe that, generally speaking, British ships are sailed cheaper than those of any other nation; and while the late modifications in the navigation laws were imperiously required by a just regard to our manufacturing and commercial interests, there are no grounds whatever for believing that they will be injurious to our shipping.

If, however, there be any real ground for believing that ships in the north of Europe may be built cheaper than in England, the remedy is not to be sought for in a revival of the prohibitive system. Whatever advantage the Prussian and Danish shipowners at present enjoy as compared with ours, is not owing to their peculiar skill or sagacity, but to our unexampled folly: to our loading the superior timber of the north of Europe with a discriminating duty of 45s. a load, in order to force the consumption of the dearer and comparatively worthless timber of Canada! We speak advisedly, and from the best attainable information, when we express

our conviction that a reduction of the duties on Baltic timber to the level of those charged on timber from Canada, would secure for us a new and important branch of industry,—the building of ships for exportation.

Restrictions on the Trade in Machinery.

1st. Importation of Machinery.—A considerable diversity of opinion exists as to the policy of imposing restrictions on the trade in tools and machines. Few, indeed, doubt the propriety of abolishing all restrictions on their importation. The possession of improved instruments of production is of the utmost importance. To exclude those that are most powerful, because they happen to be made abroad, is in effect to refuse to avail ourselves of the superior means of manufacturing enjoyed by foreigners! If the tools and machines constructed at home be superior to those made abroad, the prohibition of the latter is obviously useless; and if they be not superior, it is injurious. The emulation inspired by foreign competition is the most effectual means of securing excellence in all departments; and there is none in which it is of such vital importance as in the manufacture of machines. Inferiority in almost any other branch of industry is of comparatively little consequence, and may be accompanied with great excellence in many. But those who employ inferior machines can hardly fail of being below their neighbours in all departments; for there is hardly one that is not materially dependent on the nature of the instruments made use of by those engaged in it.

The justice of these principles seems now to be pretty generally acknowledged. And by way of encouraging the early introduction of new inventions and methods of production from foreign countries, it is usual to make them, for a longer or shorter period, the exclusive property of those by whom they are introduced. In England, the patents granted to the introducers of new inventions from foreign countries, are for fourteen years, being as long a period as they would be entitled to were they the original inventors. It is stated in defence of this rule, that the object in granting a patent is to encourage the bringing forth of new inventions and discoveries that may be useful to the

public; and that whether the invention has been arrived at by study, or discovered by travel, is of no moment. But this is a very inaccurate representation. In the granting of rewards for any invention or discovery, respect must not be had to its utility merely, but also to the difficulties that have been overcome in making it. It will hardly, however, be contended, that there can, in the great majority of cases, be the same difficulty, or, consequently, the same merit in introducing a new machine, or a new method of performing any piece of work already in use in a foreign country, that there is in originating new discoveries. In point of fact, it may be doubted whether any exclusive privilege ought to be given to those who introduce foreign inventions. If they be of very considerable value, there can be little doubt that they will be introduced without any artificial encouragement: and admitting such to be the case, it certainly appears that the inconvenience resulting from the exclusion of the public from the use of a valuable discovery for a lengthened period, must very much overbalance any advantage that can fairly be supposed to result from its being introduced a few weeks, or perhaps days, earlier than it would otherwise be. One great motive for granting a patent to an original inventor, is to prevent the discovery from being lost, by inducing him to make it public; but in the case of the introducer of a foreign discovery, this motive can have no influence. The invention is no longer capable of being lost; it is already before the public, and may be copied and practised by every one beyond the limits of the privilege enjoyed by the inventor. Hence, whatever encouragement may be given to the importers of foreign inventions, it seems altogether inexpedient that it should be so great as that which is given to original inventors. If their patents were limited to three, or at most four years, they would probably be longer than they ought to be.

But any encouragement given to the introduction of new machines into Great Britain by the law of patents or otherwise, is far more than counterbalanced by the duties on timber. These are decidedly the most objectionable of any in our tariff. If, indeed, there be any one article more than another with which it is of primary importance that a commercial and manufacturing country like England should be abundantly supplied

at the cheapest rate, that article is timber. It is indispensable to the construction of ships and houses, and of most descriptions of machinery. And yet this essential article is subjected to oppressive duties, and to still more oppressive preferences. No finance-minister, however rapacious and ignorant, ever ventured to impose heavy duties on ploughs, waggons, ships, &c., when ready for sale: but whether we tax an article when made, or tax the materials of which it is made, is exceedingly immaterial. The result is, in both cases, the same; or if there be any difference, it were better, perhaps, that the duty should be laid on the finished article. It would be no adequate apology for such a duty to say that it was imposed for the sake of revenue. It is absurd, indeed, to imagine, that revenue can be increased by taxing the instruments of production. But even this excuse, worthless as it is, cannot be alleged in extenuation of the existing duties on timber. They were imposed principally in the view of forcing the consumption of the inferior and dearer timber of Canada. And to accomplish this end—an end which has been shown to be injurious to Canada—a direct pecuniary loss of about 1,500,000*l.* a-year is entailed on Great Britain; our trade with the countries round the Baltic is impaired; and we are constrained to construct our ships, houses, and machines of materials that are at once high-priced and less durable!

2. *Exportation of Machinery.*—The question as to the policy of allowing the free exportation of machinery is not so easily solved as the question as to its importation. Nations are not only justified in availing themselves of every fair means of outstripping their neighbours in the career of improvement, but are bound to make use of them. If any single country happened to possess superior machinery, which it was in a condition to withhold from others, we should certainly think that its rulers displayed more of generosity than of good sense, were they to concede to others the free use of what might be made to redound so much to their peculiar advantage. Those who advocate the principles of free trade do so, not because there is any magic in the words, or because freedom abstractly considered is preferable to restraint, but because, upon examining the practical influence

and operation of the two systems, the absence of restrictions is found, in the vast majority of instances, to contribute to the public advantage. Hence in all cases the presumption is against those who defend restrictions; but, at the same time, we admit that this presumption is not conclusive, and that the policy to be pursued in any given case should depend upon the investigation of all the circumstances connected with it. In our view of the matter, the question which a legislature proposing to restrict the exportation of superior machinery has to consider is merely this,—Will the proposed restriction be effectual to prevent the foreigner from obtaining possession of the prohibited machines? If, upon a review of the whole circumstances of the case, this question may be satisfactorily answered in the affirmative, we should be the last to propose throwing the trade open. But it is hardly possible to suppose that a case should ever occur in which such a conclusion may be safely come to. Specifications of all our patents, and plans, and descriptions of every sort of machinery in use at Manchester, Glasgow, and Birmingham may be found in every considerable town on the Continent. Nor is this all: the laws against the emigration of artisans, having been found to be at once oppressive and impossible to execute, were repealed in 1825. Now, we would beg to ask, whether anything can be more preposterously absurd than to interdict the exportation of machines, and yet to allow the free egress of the workmen by whom they are made? This is not to deprive the foreigner of improved machines, but to make him manufacture them for himself: it is tempting our best artisans to emigrate, and depriving ourselves of an advantageous branch of business of which we might, in a great measure, enjoy a monopoly. The machine manufactures, carried on by English workmen, so common in France, Prussia, and other continental states, owe their existence to our legislation. Experience, therefore, shows that this case forms no exception to the common rule: and sound policy would seem to dictate that the restriction on exportation should be repealed, and such moderate duties imposed in its stead as might yield a revenue without materially checking exportation. A regulation of this sort would be far more advantageous to our manufacturers than the present system.

Conclusion of Observations on Restrictions—Petition of Merchants of London for a Free Trade.

It has sufficiently appeared from the previous review, that whether we consider restrictions on commerce with reference to their influence on the trade in the precious metals, or the progress of industry at home, or on national security and independence, they are alike objectionable. Their effects are in every instance such as ought to be deprecated. Their tendency is to diminish instead of increasing wealth, to retard instead of accelerating the progress of civilization, and to impair the means of defence and aggression.

Arguments similar to those previously made use of to demonstrate the mischievous influence of restrictions have been repeatedly advanced. The advantages of commercial freedom were set in a very striking point of view by Sir Dudley North, about one hundred and forty years since; and Sir Matthew Decker, Mr. Hume, and others, subsequently enforced the same principles, and showed the ruinous consequences of the prohibitive system. But its complete overthrow was reserved for Dr. Smith, who has examined and refuted the various arguments in favour of restrictions, in the most able and masterly manner, and with a fulness of illustration that leaves nothing to be desired. Such, however, were the prejudices to be overcome, and the obstacles opposed to the progress of more enlarged and liberal opinions, that notwithstanding Dr. Smith's work has been in circulation for about half a century, it is only within these very few years that statesmen and merchants have given a practical assent to its doctrines, and begun to act upon them. But happily a new era has at length begun—*novus sæclorum nascitur ordo!* The principles of free trade are no longer viewed as barren and unprofitable speculations, as the visions of theorists dreaming in their closets of public happiness never to be realised. Their justice has been admitted by the merchants, and they have been partially acted upon by the parliament of England. So that to the glory of being the first to promulgate this just and beneficent system, and to demonstrate its truth, we are now entitled to the higher praise of being the first to give it a practical bearing and real effect.

With a few distinguished exceptions

most mercantile men were, at no distant period, attached to the restrictive system. But such is no longer the case. In 1820 the merchants of London, and of most other great towns, showed how much they had emancipated themselves from the prejudices of their fathers, by petitioning the legislature to give effect to those liberal principles we have endeavoured to elucidate. The petition from the Metropolis was subscribed by all the principal traders, who did not hesitate to express their conviction, that the repeal of every protecting regulation would be for the public advantage. This document is, in every point of view, so important, and contains so admirable a summary of the doctrines we have attempted to unfold, that we should be inexcusable were we not to lay it before the reader :—

‘ To the Honourable the Commons, &c., &c., the Petition of the Merchants of the City of London,

‘ Showeth,

‘ That foreign commerce is eminently conducive to the wealth and prosperity of a country, by enabling it to import the commodities for which the soil, climate, capital, and industry of other countries are best calculated, and to export, in payment, those articles for which its own situation is better adapted.

‘ That freedom from restraint is calculated to give the utmost extension to foreign trade, and the best direction to the capital and industry of the country.

‘ That the maxim of buying in the cheapest market and selling in the dearest, which regulates every merchant in his individual dealings, is strictly applicable, as the best rule for the trade of the whole nation.

‘ That a policy founded on these principles would render the commerce of the world an interchange of mutual advantages, and diffuse an increase of wealth and enjoyments among the inhabitants of each state.

‘ That, unfortunately, a policy the very reverse of this has been and is, more or less, adopted and acted upon by the government of this and every other country; each trying to exclude the productions of other countries, with the specious and well-meant design of encouraging its own productions: thus inflicting on the bulk of its subjects, who are consumers, the necessity of submitting to privations in the quantity or quality of commodities; and thus rendering what ought to be the source of mutual benefit

and of harmony among states, a constantly recurring occasion of jealousy and hostility.

‘ That the prevailing prejudices in favour of the protective or restrictive system may be traced to the erroneous supposition that every importation of foreign commodities occasions a diminution or discouragement of our own productions to the same extent: whereas it may be clearly shown, that although the particular description of production which could not stand against unrestrained foreign competition would be discouraged, yet as no importation could be continued for any length of time without a corresponding exportation, direct or indirect, there would be an encouragement for the purpose of that exportation of some other production to which our situation might be better suited; thus affording at least an equal, and probably a greater, and certainly a more beneficial, employment to our own capital and labour.

‘ That of the numerous protective and prohibitory duties of our commercial code, it may be proved that, while all operate as a very heavy tax on the community at large, very few are of any ultimate benefit to the classes in whose favour they were originally instituted, and none to the extent of the loss occasioned by them to other classes.

‘ That among the other evils of the restrictive or protective system, not the least is, that the artificial protection of one branch of industry, or source of production against foreign competition, is set up as a ground of claim by other branches for similar protection; so that if the reasoning upon which these restrictive or prohibitory regulations are founded were followed out consistently, it would not stop short of excluding us from all foreign commerce whatsoever. And the same train of argument, which, with corresponding prohibitions and protective duties, should exclude us from foreign trade, might be brought forward to justify the re-enactment of restrictions upon the interchange of productions, (unconnected with public revenue,) among the kingdoms composing the union, or among the counties of the same kingdom.

‘ That an investigation of the effects of the restrictive system, at this time, is peculiarly called for, as it may, in the opinion of your petitioners, lead to a strong presumption that the distress which now so generally prevails is con-

siderably aggravated by that system; and that some relief may be obtained by the earliest practicable removal of such of the restraints as may be shown to be most injurious to the capital and industry of the community, and to be attended with no compensating benefit to the public revenue.

‘That a declaration against the anti-commercial principles of our restrictive system is of the more importance at the present juncture, inasmuch as, in several instances of recent occurrence, the merchants and manufacturers of foreign countries have assailed their respective governments with applications for further protective or prohibitory duties and regulations, urging the example and authority of this country, against which they are almost exclusively directed, as a sanction for the policy of such measures. And certainly, if the reasoning upon which our restrictions have been defended is worth any thing, it will apply equally in behalf of the regulations of foreign states against us. They insist upon our superiority in capital and machinery, as we do upon their comparative exemption from taxation, and with equal foundation.

‘That nothing would tend more to counteract the commercial hostility of foreign states, than the adoption of a more enlightened and a more conciliatory policy on the part of this country.

‘That although, as a matter of mere diplomacy, it may sometimes answer to hold out the removal of particular prohibitions or high duties, as depending upon corresponding concessions by other states in our favour, it does not follow that we should maintain our restrictions in cases where the desired concessions on their part cannot be obtained. Our restrictions would not be the less prejudicial to our capital and industry, because other governments persisted in preserving impolitic regulations.

‘That, upon the whole, the most liberal would prove to be the most politic course on such occasions.

‘That, independent of the direct benefit to be derived by this country on every occasion of such concession or relaxation, a great incidental object would be gained, by the recognition of a sound principle or standard to which all subsequent arrangements might be referred; and by the salutary influence which a promulgation of such just views by the legislature, and by the nation at large,

could not fail to have on the policy of other states.

‘That, in thus declaring, as your petitioners do, their conviction of the *impolicy and injustice of the restrictive system*, and in desiring every practicable relaxation of it, they have in view only such parts of it as are not connected, or only subordinately so, with the public revenue. As long as the necessity for the present amount of revenue subsists, your petitioners cannot expect so important a branch as the Customs to be given up, nor to be materially diminished, unless some substitute less objectionable be suggested. But it is *against every restrictive regulation of trade, not essential to the revenue, against all duties merely protective from foreign competition, and against the excess of such duties as are partly for the purpose of revenue and partly for that of protection*, that the prayer of the present petition is respectfully submitted to the wisdom of parliament.

‘May it, therefore, &c.’

CHAPTER V.

1. *Speculative Transactions*.—2. *Commercial Revulsions*.—3. *Abuse of Credit—Usury Laws*.—4. *Habits of Saving, &c.*

1. *Speculative Commercial Transactions*.—It very rarely happens that either the actual supply of any species of produce in extensive demand, or the intensity of that demand, can be exactly measured. Every transaction in which an individual buys in order to sell again, is, in fact, a speculation. The buyer anticipates that the demand for the article he has purchased will be such at some future period, either more or less distant, as will enable him to dispose of it with profit; and the success of the speculation depends, it is evident, on the skill with which the circumstances that must determine the future price of the commodity have been estimated. It follows, therefore, that in all highly commercial countries where merchants are possessed of large capitals, and where they are left to be guided in the use of them by their own discretion and foresight, the price of commodities will be very much influenced, not merely by the actual occurrence of changes in the accustomed relation of the supply and

demand, but by the anticipation of such changes. It is the business of the merchant to acquaint himself with every circumstance affecting the particular description of commodities in which he deals. He endeavours to obtain, by means of an extensive correspondence, the earliest and most authentic information with respect to every thing that may affect their supply or demand, or the cost of their production; and if he learned that the supply of an article had failed, or that, owing to changes of fashion, or the opening of new channels of commerce, the demand for it had been increased, he would most likely be disposed to buy in the expectation of profiting by the rise of price, which, under the circumstances of the case, could hardly fail of taking place: or, if he were a holder of the article, he would refuse to part with it, unless for a higher price than he would previously have accepted. If the intelligence received by the merchant had been of a contrary description,—if, for example, he had learned that the article was now produced with greater facility, or that there was a falling off in the demand for it, caused by a change of fashion, or by the shutting up of some of the markets to which it had been previously admitted, —he would have acted differently: in this case he would have anticipated a fall of prices, and would either have declined purchasing the article except at a reduced rate, or have endeavoured to get rid of it, supposing him to be a holder, by offering it at a lower price. In consequence of these operations, the prices of commodities, in different places and periods, are brought comparatively near to equality. All abrupt transitions from scarcity to abundance are avoided; an excess in one case is made to balance a deficiency in another, and the supply is distributed with a degree of steadiness and regularity that could hardly have been deemed attainable.

It is obvious from what has now been stated, that those who indiscriminately condemn all sorts of speculative engagements have never reflected on the circumstances incident to the prosecution of every undertaking. In truth and reality, they are all speculations. Their undertakers must look forward to periods more or less distant, and their success depends entirely on the sagacity with which they have estimated the probability of certain events occurring, and

the influence which they have ascribed to them. Speculation is, therefore, really only another name for foresight, and though fortunes have sometimes been made by a lucky hit, the character of a successful speculator is, in the vast majority of instances, due to him only who has skillfully devised the means of effecting the end he had in view, and has outstripped his competitors in the judgment with which he has looked into futurity, and appreciated the operation of causes producing distant effects. Even in those businesses, such as agriculture and manufactures, that are apparently the most secure, there is, and must be, a great deal of speculation. Those engaged in the former have to encounter the variations of seasons, while those engaged in the latter have to encounter the variations of fashion; and each is besides liable to be affected by legislative enactments, by discoveries in the arts, and by an endless variety of circumstances which it is always very difficult, and sometimes quite impossible, to foresee. On the whole, indeed, the gains of the undertakers are so adjusted that those who carry on different businesses obtain at an average the common and ordinary rate of profit. But the inequality in the gains of individuals is most commonly very great; and while the superior tact, industry, or good fortune of some enable them to realise large fortunes, the want of discernment, the less vigilant attention, or the bad fortune of others, frequently reduces them from the situation of capitalists to that of labourers.

The risk to which merchants are exposed, when they either sell off any commodity at a reduced price in anticipation of a fall, or buy at an advanced price in anticipation of a future rise, is a consequence of the extreme difficulty of ascertaining the true state of the fact with respect to the grounds on which an abundant or a deficient supply, or an increasing or decreasing demand, may be expected. Rules can here be of no service: every thing depends upon the talent, tact, and knowledge of the party. The questions to be solved are practical ones, varying in every case from each other; the skill of the merchant being evinced by the mode in which he conducts his business under such circumstances, or by his sagacity in discovering coming events, and appreciating their character, and the extent of their influence. Priority, but, above all, accu-

racy of intelligence, is in such cases of the utmost consequence. Without well-authenticated data to go upon, every step taken may only lead to error. The instances, indeed, in which speculations, apparently contrived with the greatest judgment, have ended in bankruptcy and ruin, from a deficiency in this essential requisite, are so very numerous, that every one must be acquainted with them. Hence the importance of selecting acute and cautious correspondents; and hence also the necessity of maturely weighing their reports, and of endeavouring, by the aid of information, gleaned from every authentic accessible source, to ascertain how far they may be depended upon.

The great cotton speculation of 1825 took its rise partly and chiefly from a supposed deficiency in the supply of cotton, partly from an idea that there was a greatly increased demand for raw cotton in this country and the continent, and partly from a belief that the stocks on hand were unusually low. Now, it is obvious that the success of those who embarked in this speculation depended entirely on two circumstances: viz. *first*, that they were right in the fundamental supposition on which the whole speculation rested, that the supply of cotton was no longer commensurate with the demand; and *second*, that their competition did not raise the price so high, as to diminish the consumption by the manufacturers in too great a degree to enable them to take off the quantity actually brought to market. Had the merchants been well founded in their suppositions, and had their competition not raised the price of cotton too high, the speculation would certainly have been successful. But instead of being well-founded, the hypothesis on which the whole thing rested was perfectly visionary. There was no deficiency in the supply of cotton, but, on the contrary, a great superabundance; and even if there had been a deficiency, the excess to which the price was carried must have checked consumption so much, as to occasion a serious decline. The falling off in the import of cotton from America in 1824, seems to have been the source of the delusion. It was supposed that this falling off was not accidental, but that it was a consequence of the price of cotton having been for a series of years inadequate to defray the expenses of its cultivation. The result showed

that this calculation was most erroneous. And besides, in entering on the speculation, no attention was paid to Egypt and Italy, countries from which only about 1,400,000 lbs. of cotton were obtained in 1824, but from which no less than 23,800,000 lbs. were obtained in 1825! This unlooked for importation was, of itself, almost enough to overturn the combinations of the speculators; and, coupled with the increased importation from America and other countries, actually occasioned a heavy glut of the market.

When a few leading merchants purchase in anticipation of an advance, or sell in anticipation of a fall, the speculation is often pushed beyond all reasonable limits by the operations of those who are influenced by imitation only, and who have never perhaps reflected for a moment on the grounds on which a variation of price is anticipated. In speculation, as in most other things, one individual derives confidence from another. Such a one purchases or sells, not because he has any really accurate information as to the state of the demand and supply, but because some one else has done so before him. The original impulse is thus rapidly extended; and even those who are satisfied that a speculation, in anticipation of a rise of prices, is unsafe, and that there will be a recoil, not unfrequently adventure, in the expectation that they will be able to withdraw before the recoil has begun.

It may, we believe, speaking generally, be laid down as a sound practical rule, to avoid having anything to do with a speculation in which many have already engaged. The competition of the speculators seldom fails speedily to render an adventure, that might originally have been safe, extremely hazardous. If a commodity happen to be at an unusually reduced price in any particular market, it will rise the moment that different buyers appear in the field; and supposing, on the other hand, that it is fetching an unusually high price, it will fall, perhaps, far below the cost of its production, as soon as supplies begin to be poured in by different merchants. Whatever, therefore, may be the success of those who originate a speculation, those who enter into it at an advanced price are almost sure to lose. To have been preceded by others ought not, in such matters, to inspire confidence: on the contrary, it ought, unless there be something special in the case, to induce

every considerate person to decline interfering with it.

The maintenance of the freedom of intercourse between different countries, and the more general diffusion of sound instruction, seem to be the only means by which those miscalculations that are often productive of great national, as well as private loss, can be either obviated or mitigated. The effects consequent on such improvident speculations being always more injurious to the parties engaged in them than to any other class, the presumption is, that they will diminish, both in frequency and force, according as the true principles of commerce come to be better understood. But whatever inconvenience may occasionally flow from them, it is abundantly plain, that instead of being lessened, it would be very much increased, were any restraints imposed on the freedom of adventure. When the attention of many individuals is directed to the same line of speculation; when they prosecute it as a business, and are responsible in their own private fortunes for any errors they may commit, they acquire a knowledge of the various circumstances influencing prices, and give, by their combinations, a steadiness to them which it is easy to see could not be attained by any other means. It is material, too, to bear in mind, as was previously stated, that many, perhaps it might be said *most*, of those who press so eagerly into the market when any new channel of commerce is opened, or when any considerable rise of price is anticipated, are not merchants, but persons engaged in other businesses, or living perhaps on fixed incomes, who speculate in the hope of suddenly increasing their fortune. A tendency to gambling seldom fails to break out upon such occasions; but fortunately these are only of comparatively rare occurrence; and, in the ordinary course of affairs, mercantile speculations are left to be conducted by those who are familiar with business, and who, in exerting themselves to equalise the variations of price, caused by variations of climate and of seasons, and to distribute the supply of produce proportionally to the effective demand, and with so much providence, that it may not, at any time, be wholly exhausted, perform functions that are in the highest degree important and beneficial. They are, it is true, actuated only by a desire to advance their own interests, but the results of their operations are not less

advantageous than those of the agriculturist, who gives greater fertility to the soil, or of the mechanist, who invents new and powerful machines.

2. *Commercial Revulsions.*—By a commercial revulsion is usually meant a sudden decline in the prices of commodities, and the prevalence of distress either in one or more branches that were previously flourishing. Such revulsions are ascribable to a variety of causes; but, for the most part, they originate in some miscalculation on the part of the producer or dealer, and practically illustrate the principles already laid down.

Every exertion of industry involves a certain degree of speculation. The individual who buys raw cotton or raw silk, in the intention of manufacturing it into articles of dress or furniture, supposes that the article, when manufactured, will sell for a price sufficient to indemnify him for his expenses, and to leave him the customary profits on his capital. There is, however, a good deal of risk in an adventure of this sort: were the fashion to change while the articles are in preparation, it might be impossible to get them disposed of, except at a considerable loss; or, were new facilities given to the commerce with countries whence similar articles may be procured, or any discovery made which facilitated their production, their price would certainly fall, and the speculation would turn out an unprofitable one. But, how singular soever the statement may at first appear, it will be found that miscalculation and gluts are more frequently produced by an increase than by a decline in the demand for produce. Suppose that, owing to the opening of new markets, to a change of fashion, or to any other cause, the demand for hardware were suddenly increased: the consequences of such increased demand would be, that its price would immediately rise, and the manufacturers would obtain comparatively high profits. But the rate of profit cannot, unless monopolies interfere to prevent or counteract the operation of the principle of competition, continue for any considerable period, either higher or lower, in one employment, than in others. As soon, therefore, as this rise of price had taken place, additional capital would begin to be employed in its production. Those already engaged in the trade would endeavour to extend their business by borrowing fresh capi-

tal, while a number of those engaged in other businesses would withdraw from them and enter into it. Unluckily, however, it is next to certain that this transference of capital would not stop at the point when it would suffice to produce the additional supply of hardware at the old prices, but that it would be carried so much farther as to produce a glut, and a consequent revulsion. A variety of causes conspire to produce this effect; the advantages which any class of producers derive from an increased demand for their peculiar produce, are uniformly exaggerated, as well by that portion of themselves who are anxious, in order to improve their credit, to magnify their gains, as by those engaged in other employments. The adventurous and sanguine—those who are particularly disposed to take *omne ignotum pro magifico*—crowd into a business which they readily believe presents the shortest and safest road to wealth and consideration; at the same time that many of that generally numerous class who have their capitals lent to others, and are waiting till a favourable opportunity occurs for vesting them in some industrious undertaking, are tempted to follow the same course. It occurs to few that the same causes which impel one to enter into a department that is yielding comparatively high profits are, most probably, impelling thousands. Confident in his own good fortune, the adventurer leaves a business to which he had been bred, and with which he was well acquainted, to enter, as a competitor, on a new and untried arena; while those already engaged in the advantageous business stretch their credit to the utmost, that they may acquire the means of extending their concerns, and of increasing the supply of the commodity in unusual demand. The result, that every unprejudiced observer would anticipate, almost invariably takes place. A disproportionate quantity of capital being attracted to the lucrative business, a glut of the market, and a ruinous depression of prices, unavoidably follow.

Those who investigate the history of industry, either in this or any other country, will find that a period of *peculiar* prosperity, in any one branch, is the almost uniform harbinger of mischief. If we turn, for example, to the history of agriculture, the alternation between periods of high prices and great agricultural prosperity, and of low prices and great agricultural distress, is so striking,

that it cannot fail to arrest the attention of every one. The high prices of 1800 and 1801 gave an extraordinary stimulus to agricultural industry. Nearly *double* the number of acts of parliament were passed in 1802, for the inclosure and drainage of land, that had been passed in any previous year. A great extent of old grass-fields was, at the same time, subjected to the plough. And in consequence of this extension of cultivation, and of the improvements that were then entered upon and completed, the supply of corn was so much increased in 1804, that prices sunk considerably below the previous level; and an act was passed, in consequence of the representations made by the agriculturists of their depressed condition, granting additional protection against foreign competition. The high prices of 1810, 1811, 1812, and 1813, had a precisely similar result. They attracted so much fresh capital to the land, and occasioned such an extension of tillage, that we grew, in 1812 and 1813, an adequate supply of corn for our own consumption. And, under such circumstances, it is certain that the price of corn must have fallen, in consequence of the unusually abundant harvest of 1814, though the ports had been entirely shut against importation from abroad.

The history of the West India trade may also be referred to, as affording the most convincing proofs of the truth of this principle. The devastation of St. Domingo by the negro insurrection, which broke out in 1792, by first diminishing, and in a very few years entirely annihilating, the supply of 115,000 hhds. of sugar, which France and the continent had previously drawn from that island, occasioned an extraordinary rise of prices, and gave a proportional encouragement to its cultivation in other parts. So powerful was its influence in this respect, that Jamaica, which, at an average of the six years preceding 1799, had exported only 83,000 hhds., exported in 1801 and 1802 upwards of 286,000, or 143,000 a-year! But the duration of this prosperity was as brief as it was signal. The rise of price which had produced such effects in the British islands occasioned a similar, though less rapid, extension of cultivation in the colonies of the continental powers. The increased supplies of sugar and coffee that were in consequence obtained from Cuba, Porto Rico, Martinique and Guadaloupe, Brazil, &c., became, in no

very long time, not only sufficient to fill up the vacuum caused by the cessation of the supplies from St. Domingo, but actually to overload the market. The great foreign demand for British plantation sugar, which had been experienced after the destruction of the St. Domingo trade, gradually diminished, until 1805 or 1806, when it almost entirely ceased; and the whole extra quantity raised in consequence of that demand, being thrown upon the home market, its price, which had been 66s. a cwt. in 1798, exclusive of duty, fell, in 1806, to 34s., a price which the committee, that was then appointed by the House of Commons to inquire into the distresses of the planters, states, was not only insufficient to yield them any profit, but even to indemnify them for their actual outlay. And we may add, that owing to the ill-advised measures that were soon after adopted for creating a forced and unnatural demand for sugar, by substituting it, in the place of barley, in the distillery, its supply was prevented from being diminished in proportion to the diminution of the effective demand; and this circumstance, combined with the oppressive regulations on the trade of the islands, and particularly on their intercourse with the United States, have since retained the planters, some short intervals only excepted, in distress and difficulty.

The history of the silk-trade, of distillation, and indeed of every branch of industry, furnishes but too many proofs of the constant operation of this principle of compensation. The greater and more signal the peculiar prosperity of any one department, the greater, invariably, is the subsequent recoil. Such an increased demand for any commodity as would raise its price 10 per cent. above the common level, would certainly cause it to be produced in excess, and would, in consequence, occasion a revulsion. But were the price to rise 30 or 40 per cent. above the common level, the temptation to employ additional capital in its production would be so very great, that the revulsion would both take place sooner, and be incomparably more severe.

Revolutions of the sort now described will necessarily continue to occur; to a greater or less extent, under all systems of public economy. But there is nothing that would tend so much to lessen their frequency and violence, as a determination, on the part of government, to with-

hold all relief, except in cases of extreme necessity, from those who have the misfortune to be involved in them. It must be acknowledged that this seems rather a harsh doctrine; but, on examination, it will be found to be the only safe and really practicable line of conduct that government can follow. Almost all the restrictions and prohibitions which fetter our commerce and enterprise have been occasioned by government stepping out of its proper province, and interfering for the relief of those who had got themselves entangled in difficulties. By this means, a very large proportion of the industry of the country was at one time placed on an insecure foundation; and, notwithstanding the reforms that have been effected, a great deal is still in that situation. Merchants and manufacturers have been, in this way, partially relieved from that natural responsibility under which every man ought to act, and tempted to trust to the support given by government in the event of their speculations giving way. Were it possible, indeed, to grant such assistance without injury to the rest of the community, none would object to it; but, as this cannot be done, it appears not only that sound policy, but also that real humanity, would dictate the propriety of its being withheld in all but extreme cases.

We are happy to be able to corroborate what is now stated, by the authority of one of our ablest practical merchants. 'The only beneficial care,' says Mr. Alexander Baring, 'that a government can take of commerce, is to afford it general protection in time of war; to remove, by treaties, the restrictions of foreign governments in time of peace, and cautiously to abstain from any, however plausible, of its own creating. If every law of regulation, either of our internal or external trade, were repealed, with the exception of those necessary for the collection of revenue, it would be an undoubted benefit to commerce, as well as to the community at large. An avowed system of allowing things to take their own course, and of not listening to the interested solicitations of one class or another for relief, whenever the imprudence of speculation has occasioned losses, would, sooner than any artificial remedy, reproduce that equilibrium of demand and supply, which the ardour of gain will frequently derange, but which the same cause, when let alone, will as infallibly restore.'

'The interference of the political regulator in these cases is not only a certain injury to the other classes of the community, but generally so to that in whose favour it is exercised. If too much sugar be manufactured in Jamaica, or too much cotton in Manchester, the loss of those concerned will soon correct the mischief; but if forced means are devised to provide for the former a temporary increase of demand, which cannot be permanently secured, a recurrence to that natural state of fair profit, which is most to be desired by the planter, is artificially prevented by the very means intended for his relief. If the cotton manufacturer, on the other hand, is to have his imprudences relieved at the expense of those employed on linen, silk, wool, or other materials, the injustice, as well as impolicy, of such a remedy, need no illustration.

'Whenever the assistance of government is called for by any class of traders or manufacturers, it is usual to make the most splendid display of the importance of that particular branch to the nation at large. The West and East India interests, the ship-owners, the manufacturers, the American merchants, have all the means of making these brilliant representations; but it should be recollected, that the interest of the state consists in the prosperity of the whole; that it is contrary to sound policy to advance one beyond its natural means, and still more to do so at the expense of others; and that the only mode of ascertaining the natural limits of each is to leave them all alone.'—(*Inquiry into the Causes and Consequences of the Orders in Council*, 1st ed. p. 133.)

The establishment of a free commercial system would operate powerfully to prevent improvident speculations. We should then engage only in those branches of industry for the prosecution of which we have some natural or acquired advantage, and which would, in consequence, be in a great measure secure against those unfavourable contingencies that are always affecting businesses fenced round with restrictions. Suppose, to illustrate the principle, that a really free trade were established in silks; we should export supplies of plain silks, of mixed fabrics of wool, cotton, and silk, and of gloves and hosiery, in which we have an advantage; at the same time that the greater part of our demand for fancy goods, and other articles of that description, would, most probably, be supplied by the foreigner.

If, on the one hand, therefore, the demand for silks should, in consequence of a change of fashion, or any other cause, suddenly increase, the competition of the foreign manufacturers would prevent prices attaining any very extravagant height, and would thereby prevent both the inordinate extension of the manufacture and its subsequent recoil: and if, on the other hand, the demand for silks in this country happened to decline, the various foreign markets resorted to by our manufacturers would give them the means of disposing of their surplus goods, at a small reduction of price compared to what must take place when they are confined, as has hitherto been principally the case, to the home market.—(*M'Culloch's Principles of Political Economy*, 2d ed. pp. 203—209.)

2. *Abuse of Credit—Usury Laws.*—We are, however, inclined to think that the principal cause of improvident commercial speculations, and of the ruin which so frequently overtakes mercantile establishments, is to be sought for in the abuse of credit, an abuse that has prevailed in this country to an extent unknown anywhere else. At present, the practice is for manufacturers to receive orders, in the course of the year, from twenty or thirty commercial houses, for goods to be exported to the West Indies, South America, Germany, the East Indies, &c., the understood term of credit being from twelve to fifteen and eighteen months. Very frequently, however, the merchant does not receive remittances from abroad equal to the goods sent out; but he is led partly and principally by the facility of obtaining credit at home, and partly by assurances from his correspondents abroad that his goods have been well sold, and that their price will, no doubt, be speedily realized, to go on increasing his exports till he becomes embarrassed, when a bankruptcy either takes place, or he is obliged to act under an arrangement with his creditors. Less business, probably, might be done were less credit given to exporters, but what was done would be transacted to far better purpose. Bankruptcy would be infinitely less frequent, and commerce would not be infected with that gambling spirit so utterly alien to the considerate forethought and sagacious enterprise that distinguish the best class of merchants.

The discount of bills at long dates is a great incentive to unsafe speculation.

When an individual obtains money which he is not to be called upon to pay for six, twelve, or eighteen months, he is tempted to adventure in undertakings that are not to terminate till some distant period; and the consequence is, that when the bill becomes due, he is very often unable to pay it, or can pay it only by withdrawing capital, at a great loss, from some line of business, or by making a new loan on very disadvantageous terms.

The bookselling trade may be referred to in proof of this statement. In all departments connected with it very long credits are given. In consequence, persons with a very limited amount of capital are tempted to engage in publishing adventures, the hazard of which is proverbially great; and when the time comes that they must discharge their obligations, they have no resource but to go, at once, into the *Gazette*, or to defer the crisis for a little, by throwing their publications upon the market at little more than the price of the paper. Hence the extremely unsatisfactory state of the publishing trade at this moment, and for many years past. Publishing is a department in which adequate capital, and good connexions, are more indispensable than in most others; but such is the nature of our credit system, that it frequently enables them to be entirely dispensed with; and instances may be specified in which individuals, who at no time were worth a sixpence, have contracted obligations to the amount of 50,000*l.*, or 100,000*l.*, and even more! Such a state of things is, in the highest degree, prejudicial to the interests of literature; and we are firmly convinced that the introduction of a system of ready-money payments, or of short credits, among booksellers, printers, paper-makers, and authors, would do more to promote its prosperity than any thing else.

The merchants of Holland have never been charged with any want of enterprise. On the contrary, they have been, at all times, ready to engage in any adventure, however remote or hazardous, that held out a reasonable prospect of even a moderate profit. This circumstance shows conclusively that long credits are not necessary to stimulate commercial enterprise; for Holland is, and always has been, a country of short credit. A discount is usually given for prompt payment, at the rate of one per cent. for six weeks, and of two per cent. for two months; but the terms

of credit, on most articles, and the discount allowed for ready money, have been fixed by usage, and are regarded as essential conditions in all bargains:—
‘Rien en effet de plus facile que de s'établir à Amsterdam; mais rien de plus difficile que de s'y soutenir sans de grandes ressources. Dans cette ville, où l'argent abonde, où on le prête contre des sûretés à si bon marché, il est pourtant impossible de s'en procurer à crédit; et sans argent, il n'y a pas plus de possibilité d'y travailler, que de trouver quelqu'un qui veuille se charger d'un papier nouveau qui ne serait pas appuyé d'un crédit que l'opinion, la protection, ou des effets réels feroient valoir à la bourse. Les Hollandois suivent là-dessus des maximes très austères même à l'égard des maisons d'une certaine considération. Il est extrêmement difficile de trouver sur la bourse des personnes qui prennent du papier d'un négociant pour des plus fortes sommes que celles que peuvent comporter les affaires qu'on lui connoît.’—(*Ricard, Traité Général du Commerce*, tom. i., p. 212, éd. 1781.)

This extraordinary caution is not, however, a disadvantage, but the reverse. It hinders commerce from degenerating, as it has often done in other places, into gambling adventures, and places it on a comparatively solid foundation. As a proof of the excellence of this system, it is enough to state, that bankruptcies are rarer in Holland than in any other country. Notwithstanding the loss and interruption to all sorts of businesses, occasioned by the occupation of the country by the French in 1795, the failures in that and the subsequent season were not, comparatively, so numerous as in England in ordinary years. And during the recent convulsions growing out of the separation of Belgium, no suspicion was ever entertained of the solvency of any considerable Dutch house.

Various circumstances have contributed to that extension of credit which prevails in this country, but few, perhaps, have had more influence than the usury laws. It is singular that so oppressive a restriction should still be allowed to preserve its place in the statute-book. The rate of interest, like the rate of insurance, ought to vary according to the supposed risk, and other circumstances peculiar to each transaction. But in consequence of the limitation to five per cent., industrious and active young men, well acquainted with busi-

ness, but without capital, who might obtain a loan from a monied friend at six, seven, or eight per cent., are frequently unable to borrow a single farthing. Such persons, therefore, if they attempt to escape from the routine drudgery of clerks, and to commence business on their own account, are obliged to buy on credit from the producers, that is, to borrow goods instead of money: and the sellers or lenders, to indemnify themselves for the risk they run in entering into a transaction of this sort, make an addition of from fifteen to twenty per cent. to the price at which they would be willing to sell their goods for ready money! And thus the preposterous limitation of the interest on pecuniary loans compels those who require accommodation to seek it in the shape of goods, at an enormous increase of cost, and with many other disadvantages. The producer who advances the goods may very probably be unable to postpone their payment beyond the term agreed upon; so that if they have not been sold, and a remittance received, the merchant must stop payment, unless he get a similar advance from some other producer. But had he obtained a loan of money, the result would have been very different. The cost of the goods being, in that case, comparatively low, they might have been sold with a profit at a much less price, so that the chance of their finding a market would have been considerably greater; and though they had not been sold, the capitalist who had made the loan, not having occasion for the money, and having confidence in the integrity and skill of the borrower, the latter would not be obliged to hurry a disadvantageous sale to meet his engagements. The effect of the usury laws is, in fact, to force loans to be made to the mercantile classes by those who are least able to spare them; that is, by those engaged in producing; whereas, were capitalists allowed openly to stipulate for interest proportioned to their real or supposed risks, advances would be made by wealthy individuals retired from active business, who are the very persons best able to make them, and by whom they ought to be made. At present the usury laws are less pernicious than during war; but even now it is not easy to exaggerate their mischievous influence in the way we have endeavoured to exhibit; and, as they have not a single countervailing

advantage to recommend them, their abolition ought not to be delayed.

4. *Habits of Saving.*—A good deal of the abuse of credit in this country, and no inconsiderable number of the bankruptcies that are so very frequent, may be ascribed to the national habits and mode of living. The circumstance of London being at once the residence of the court, and the commercial metropolis of the empire, has had both a favourable and an unfavourable influence on the mercantile character. The fashion is set by the nobility and other residents at the west end of the town; and the desire to be able to indulge in a similar scale of expense inspires the industrious classes with new ardour, and prevents any one from supposing that he has acquired an adequate fortune unless it will enable him to live in something like the fashionable style. Unluckily, however, many persons, some from a natural and laudable desire not to appear to belong to a lower class of society, others from a calculation that an expensive mode of living infers the possession of property, and will attract confidence and connexions, aspire too soon to distinction in the way of expense; and after an establishment has been formed, few have resolution, in the event of its proving too costly, to prune its luxuries, and to descend to a lower scale. Instead of attempting to repair their falling fortunes by retrenchment and economy, too many try to improve them by engaging in desperate adventures, that would be shunned by every prudent man; and which, in nine cases out of ten, accelerate the catastrophe. Of those that have become bankrupt, notwithstanding the possession of capital, skill, and connexions, a large number have been shipwrecked in the way now mentioned. This circumstance is seldom, indeed, brought prominently forward. We hear of losses from shipments to South America and India, from the impossibility of realising mortgages on West India property, from the decline in the price of stocks on hand, &c.; but we hear nothing of the expenditure of 3,000*l.*, 5,000*l.*, or, it may be, 10,000*l.* a-year for a lengthened period, by those who ought not, at any time, to have spent more than 2,000*l.* It is this that by hindering the accumulation of a fund to meet any emergency, has been the real cause of the failure. It would be invidious to specify instances in proof

of what has been stated; they are incredibly numerous; and are well known to every mercantile man, and to every one who has had any intercourse with merchants.

In this respect, as well as in the habit of dealing on short credits, our merchants might profit by the example of the Dutch. In Holland, indeed, the spirit of parsimony seems to be carried to an absurd extent; and it would appear that fortunes are amassed not for the enjoyment that may be derived from them, but for the mere pleasure of amassing. We should be exceedingly sorry to see any such sordid spirit obtain an ascendancy amongst our merchants; but there is a medium between the extreme economy of the Hollanders and the lavish expenditure of the English: and it is astonishing how much the curtailment of useless expense, such as the laying aside of superfluous servants, horses, &c., would do to increase the solvency of the mercantile classes, and their real respectability.

In London the outlay upon servants is immense; and it would seem, from the universality of the habit, as if the circumstance of a merchant or banker having his house encumbered with some half-dozen powdered lackeys, for three-fourths of which he has no manner of use, served as a guarantee of his solidity, and made his bills be readily negotiated. The Dutch are far from this ridiculous affectation of lordly expense:—‘*Ils n'ont précisément que les domestiques qu'il leur faut; et ils sont bien fâchés, quand leurs circonstances exigent qu'ils en entretiennent beaucoup. Ils savent trop bien que cette canaille ne fait rien qu'embarrasser une maison, qu'elle y entretienne le désordre; que tandis que chacun cherche réciproquement à se décharger de son service sur quelqu'un de ses compagnons, le maître est réduit à se servir lui-même; que des gueux pareils sans industrie et sans éducation ne peuvent que se gâter eux-mêmes entr'eux, et communiquer la corruption de leurs mœurs aux enfants même du maître. Ainsi ce n'est point par avarice, mais par prudence, qu'ils se passent de domestiques autant qu'ils le peuvent.*’—(Lettres sur la Hollande, ii., p. 188.)

Ostentatious display ought carefully to be avoided by all who have not a large fortune independent altogether of the fortune required in carrying on trade. To those with straitened means it is certain destruction. It has been truly

observed, that ‘In the mercantile, as in other lines, the means of success are few and simple; not easy of attainment indeed, and requiring, above all, long continued perseverance, but less varied and complicated than a youthful mind is apt to imagine. Analyse the true qualities of a man of business, you will find they reduce themselves to fairness, vigilance, and steadiness,—fairness exemplified in declaring his terms at once, and in never deviating from an engagement; vigilance in superintending his assistants, his clerks, and his workmen; and steadiness in following up his proper line year after year, without turning to the right or the left in pursuit of speculative advantages. These, plain as they are, form the true virtues of mercantile life; the man who is known to possess them will be at no loss for connexions, and may safely leave to others the task of seeking a reputation for hospitality by their mode of living, of activity by the frequency of their solicitations, or of liberality by an unusual prolongation of credit.’—(Art. Commerce, Supp. Ency. Brit.)

CHAPTER VI.

Bounties—Drawbacks.

Bounties.—It is unnecessary, after the discussions into which we have already entered, to engage in any lengthened inquiries as to the nature and effect of bounties. These are premiums paid by government to the exporters, and sometimes also to the producers, of certain species of goods. A government may, by the aid of prohibitions and Custom-house regulations, force its subjects to buy dear commodities instead of cheap ones; but the sphere of its influence is circumscribed by the boundaries of its own dominions, and does not extend to foreigners. What the patrons of the mercantile system could not effect in one way, they were, however, resolved to effect in another. Not being able to compel the foreigner to purchase comparatively high priced goods, they thought that the next best thing they could do was to sell them to him for less than they actually cost. Government pays a bounty or premium to the exporter; and he is thus enabled, or rather, we should say, compelled by the competition of others, to sell his goods in the foreign market for so much less than he could otherwise afford: in other words, government taxes the public

to make a present to foreigners! 'Those trades,' says Dr. Smith, 'only require bounties in which the merchant is obliged to sell his goods for a price which does not replace to him his capital, together with the ordinary profit, or in which he is obliged to sell them for less than it really cost him to send them to market. The bounty is given in order to make up this loss, and to encourage him to continue, or perhaps to begin, a trade of which the expense is supposed to be greater than the returns, of which every operation eats up a part of the capital employed in it, and which is of such a nature that, if all other trades resembled it, there would soon be no capital left in the country.'

'The trades, it is to be observed, which are carried on by means of bounties, are the only ones which can be carried on between two nations for any considerable time together, in such a manner as that one of them shall always and regularly lose, or sell its goods for less than it really costs to send them to market. But if the bounty did not repay to the merchant what he would otherwise lose upon the price of his goods, his own interest would soon oblige him to employ his stock in another way, or to find out a trade in which the price of the goods would replace to him, with the ordinary profit, the capital employed in sending them to market. The effect of bounties, like that of all other expedients of the mercantile system, can only be to force the trade of a country into a channel much less advantageous than that in which it would naturally run of its own accord.'—(*Wealth of Nations*, ii. p. 362.)

Dr. Smith has truly stated that premiums to artists and manufacturers who excel in their peculiar occupations are not liable to the same objections as bounties, commonly so called. At the same time, however, it is certainly true that these rewards ought not to be lavishly distributed, and that great judgment and discrimination are necessary to prevent them from degenerating into abuse. Generally speaking, the public is the best and most liberal patron of artists and inventors of every sort; and it is on its countenance and protection that they ought to be taught mainly to depend. By the device of patents the inventors and discoverers of useful processes are in most cases, though not always, enabled to derive such peculiar advantages from them, as are usually sufficient to stimulate them to fresh

exertions of skill and ingenuity. In some departments of the useful arts, however, and in most departments of the fine arts, and the less popular branches of literature, the public patronage seldom affords a very adequate remuneration for the skill, industry, and ingenuity of those by whom they are advanced and perfected. There is no individual, perhaps, to whom this country is more signally indebted than to Richard Hargraves, the inventor of the spinning-jenny, who led the way in that wonderful career of discovery by which the British cotton manufacture has attained in so short a period to such unrivalled perfection. And yet, to the indelible disgrace of his age and nation, this most meritorious individual, by whose ingenuity millions have been enriched, was allowed to pass his days in poverty and neglect, and terminated his existence in the workhouse at Notting-ham! Crompton, the inventor of the mule-jenny, met with somewhat better treatment, but not with such as he deserved. His invention has been of extraordinary utility; but not being at first aware of its value, he did not take out a patent for it, and only, indeed, perfected it by slow degrees. In 1812, however, he was advised to apply to parliament for a reward. The justice of his claim being admitted, a committee was appointed to investigate the circumstances. This committee reported that upwards of 4,000,000 spindles were employed on Crompton's principle; that two-thirds of the steam-engines for spinning cottons turned mules; and that the value of the buildings and machinery employed on the same principle, amounted to between 3,000,000*l.* and 4,000,000*l.* sterling. In consequence of this report, the House of Commons, as a mark of its high sense of his important services, voted Mr. Crompton a sum of—5000*l.*! Commentary on such a proceeding would be worse than useless. In whatever difficulties we may be involved, it cannot certainly be said that they have occurred by the public bounty being too liberally extended to the improvers of those arts which have raised us to eminence as a nation.

It would be wrong, perhaps, to devote any considerable portion of the public revenue to the encouragement of the fine arts, or of literary pursuits; but the glory which excellence in them confers on a nation, and the various advantages of which they are productive, ought to obtain for them a reasonable

share of the bounty and patronage of government. The small sums expended by Louis XIV. in douceurs to literary men, and in the encouragement of the arts, has redounded infinitely more to his glory, and that of France, than even the most successful of his campaigns. The verses of Racine and Boileau will be read and admired long after the Chateau of Versailles is level with the dust.

Drawbacks.—The granting of drawbacks on goods exported is not liable to the same objections as the granting of bounties, and is, indeed, in most cases highly expedient. It may be necessary for fiscal purposes, that a duty should be laid on produce, part of which was previously exported to other countries. But, if this duty were levied on the produce exported to the foreigner, it would either narrow the demand for the article in the foreign market, or, which is most probable, it would tempt the foreigner to supply himself from some other quarter. And hence it is usual, in order to prevent foreign trade from being injuriously affected by internal taxes, to remit or drawback either the whole or part of the taxes paid on most articles when they are about to be exported. A measure of this sort does not, it is obvious, tend, like a prohibition or a bounty, to divert towards, or retain in any particular employment, a greater share of the capital and industry of the country than what naturally belongs to or would remain in it, but merely to hinder capital and labour from being forcibly drawn from one business to another. ‘Drawbacks,’ says Dr. Smith, ‘do not tend to turn toward any particular employment a greater share of the capital of the country than what would go to that employment of its own accord, but only to hinder the duty from driving away any part of that share to other employments. They tend not to overturn that balance which naturally establishes itself among all the various employments of the society, but to hinder it from being overturned by the duty. They tend not to destroy, but to preserve, what it is in most cases advantageous to preserve, the natural division and distribution of labour in the society.’—(Wealth of Nations, ii. p. 352.)

We are surprised that the policy of granting a drawback has not been brought more prominently forward in the discussions with respect to the corn laws. The question as to the compara-

tive amount of taxation falling on the agriculturists and the other classes, is of very difficult solution. We believe, however, were this the proper place for entering on such an investigation, that it might be satisfactorily shown that the agriculturists are more heavily taxed than any other description of producers; and that, consequently, they are entitled to claim that a duty corresponding to the *excess of taxes falling upon them* should be imposed on foreign corn when imported. Different opinions may be entertained as to the amount of this duty: but were it fixed at 6s. or 7s. a quarter on wheat, and on other grain in proportion, it would certainly be as much as the agriculturists can fairly claim. But whatever may be the amount of duty, and however imposed, it ought to be accompanied with an equivalent drawback. Justice cannot be otherwise done to the agriculturists. The duty on importation is imposed because the corn produced at home is subject to an excess of taxation, and when, therefore, such corn is exported, this excess ought to be remitted. This is a point on which Mr. Ricardo has expressed himself as follows:—‘In allowing this drawback, we are merely returning to the farmer a tax which he has already paid, and which he must have to place him in a fair state of competition in the foreign market not only with the foreign producer, but with his own countrymen who are producing other commodities. It is essentially different from a bounty on exportation in the sense in which the word bounty is generally understood, for by a bounty is generally meant a tax levied on the people for the purpose of rendering corn unnaturally cheap to the foreign consumer; whereas, what I propose is, to sell our corn at the price at which we can really afford to produce it, and not to add to its price a tax which shall induce the foreigner rather to purchase it from some other country, and deprive us of a trade which, under a system of free competition, we might have selected.’—(On Protection to Agriculture, p. 53.)

At present the farmers are distressed as much or more by a luxuriant as by a deficient crop. Our population being comparatively dense, the imposition of duties on importation raises our average prices above the level of those of the surrounding states; so that whenever we happen to have an unusually luxuriant harvest the whole extra supply is

thrown upon the home market, exportation being impracticable till the price has sunk ruinously low. The granting of a drawback would obviate this cause of fluctuation; and if it be just or expedient to impose a duty, it must be equally so to allow a drawback. It would not, however, be possible in the present state of the finances to grant a drawback corresponding to the duties now imposed on importation; and this, were there nothing else to urge, ought to suggest the policy of their reduction. We are firmly persuaded that a constant duty of 6s. or 7s. a quarter, with an equivalent drawback, would be incomparably more beneficial to the agriculturists than the present system; at the same time, that by giving freedom and security to the corn trade, it would tend to prevent injurious fluctuations of price, and would be in the highest degree advantageous to the public.

CHAPTER VII.

Commercial Treaties.

COMMERCIAL treaties have been negotiated from a very remote era, and a good deal more stress has been laid upon them than they really seem to deserve. During the middle ages, indeed, while aliens or foreigners were exposed to the most inhospitable treatment, being frequently even made liable for the debts and crimes of others, commercial treaties were of considerable advantage, inasmuch as they stipulated for the suspension of those barbarous customs, and procured for foreigners that protection and security so essential to the prosecution of commercial undertakings. After the establishment of good order, and the growing intercourse among nations had abated the prejudices against strangers, it might have been supposed that commercial treaties would have gradually fallen into disuse, or been restricted to a few simple regulations for facilitating mercantile transactions. But at the same time that the real importance of commercial treaties declined, they acquired an adventitious value in the estimation of politicians and merchants, and began to be employed as one of the most efficacious instruments of the mercantile system. They have not consequently, with a few exceptions, been entered into for the purpose of mutually modifying restrictions, and giving greater

facilities to commerce, but because each party imagined they were gaining some peculiar advantage at the expense of the other! And hence, almost all the commercial treaties negotiated during the last 200 years are full of stipulations as to duties, the privileges to be enjoyed by the ships of either party in the ports of the other, &c. It is almost superfluous to add, that these imaginary advantages have commonly proved either useless or positively pernicious. It cannot be for the public advantage to show any favour to one set of foreigners more than to another. Common sense suggests the propriety of dealing in preference with those who supply us best and cheapest with the articles we want. Now, these, it is obvious, require no privileges. All that is necessary to the successful prosecution of the most extensive intercourse with them, is to *let it alone*; we deal with them because we find it most for our advantage, and it is evident that, if we put an end to this intercourse, by giving artificial privileges to others, we injure ourselves, and force our people to forsake the cheap shop, and to go to the dear! Such is the preposterous principle on which nine out of ten commercial treaties have been negotiated. They have not been employed to remove the obstacles that oppose commerce, but to give it an artificial direction, to force it into channels in which it would not naturally flow, and in which it is sure to be least beneficial.

But it may be said, perhaps, that though a commercial treaty stipulating for some peculiar privilege, be disadvantageous to the country making the concession, it is proportionally advantageous to the one in whose favour it is made. In point of fact, however, such is not the case. Reciprocity is the beginning, the middle, and the end, of all commercial transactions. It is quite visionary to imagine that any nation will continue *bonâ fide* to grant to another an exclusive advantage, unless she obtains what she reckons a countervailing benefit; and if a commercial treaty stipulating for an exclusive privilege, be really observed on the part of the country by which it is conceded, we may be assured that the concessions made by the country in whose favour the privilege is granted are sufficient fully to balance it.

The famous commercial treaty negotiated by Mr. Methuen with Portugal, in 1703, was long regarded as a masterpiece of its kind. Such, indeed, was the

estimation in which it was held in the reign of George I., that it is stated in the British Merchant, a work of great authority at the time, that a statue ought to be erected to Mr. Methuen in every considerable town in the empire! So far, however, from these encomiums being deserved, it would be difficult to point out any transaction in the history of the country that has been more injurious to its commerce than this very treaty. Previously to 1700, British woollens had been admitted at a reasonable duty into Portugal, but at the epoch of the negociation of the treaty they were excluded. The main object of Great Britain in entering into this treaty was to procure the repeal of this prohibition, which was effected, but at an enormous cost. The treaty being short and often referred to, we subjoin it:—

‘I. His sacred royal majesty of Portugal promises, both in his own name and that of his successors, to admit, for ever hereafter, into Portugal, the woollen cloths and the rest of the woollen manufactures of the British, as was accustomed till they were prohibited by law; nevertheless upon this condition:

‘II. That is to say, that her sacred royal majesty of Great Britain shall, in her own name and that of her successors, be obliged, for ever hereafter, to admit the wines of the growth of Portugal into Britain; so that at no time, whether there be peace or war between the kingdoms of Britain and France, anything more shall be demanded for these wines by the name of custom or duty, or by whatsoever other title, directly or indirectly, or whether they shall be imported into Great Britain in pipes or hogsheads, or other casks, than what shall be demanded for the like quantity or measure of French wines, deducting or abating a third part of the custom or duty. But if at any time this deduction or abatement of customs, which is to be made as aforesaid, shall in any manner be attempted and prejudiced, it shall be just and lawful for his sacred royal majesty of Portugal again to prohibit the woollen cloths, and the rest of the British woollen manufactures.’

A more improvident bargain on our part could not have been entered into. The repeal of the prohibition of woollens was of infinitely more importance to the Portuguese than to the English. It should also be observed that in its repeal Portugal made no peculiar concessions to us; for, though she bound herself to admit our woollen cloths on the same

terms as before the prohibition, she did not bind herself to admit them on lower terms than the woollens of France, Saxony, or any other country. And in return for this pitiful boon we bound ourselves ‘for ever hereafter’ to drink inferior wine bought at a comparatively high price! But the influence of this treaty in increasing the cost and deteriorating the quality of wine, was, perhaps, the least of its mischievous consequences. By excluding one of the principal equivalents the French had to give in exchange for our commodities, it lessened their ability to become the purchasers of our goods, at the same time that it tempted them to adopt retaliatory measures against our trade, and either to exclude our commodities altogether, or to burden them with prohibitory duties. It is owing more to the Methuen treaty than to anything else that the trade between Great Britain and France—a trade that ought to be the most extensive of any in the world—is confined within such narrow limits as hardly to be of more importance than the trade to Sweden.

The system of charging discriminating duties on French wine began previously to the negociation of the Methuen treaty, but it perpetuated the practice. The effect of these duties in changing the national taste has been most striking. Previously to the revolution the wines of France were very extensively consumed in England, to the almost total exclusion, indeed, of all others, except sherry. In 1687 the imports of French wine amounted to 15,518 tuns; in 1688, to 14,218 tuns; and in 1689, to 11,109 tuns. It is very doubtful whether a single tun of port wine had been imported into Great Britain previously to 1690; but after the wines of France had been loaded with heavy discriminating duties, our merchants began to import the wines of Oporto as a substitute for the red wines of the Bordelais; and the same cause that originally occasioned the introduction of port having continued to operate, it ultimately gained ground, so as almost wholly to exclude the former. The beverage that was forced upon us in the first instance by necessity, has become congenial from habit. At present, indeed, the taste of the nation runs so strongly in favour of port, that it will, most probably, be a considerable time before the late equalisation of the duty materially reduces the consumption of the latter.

Mr. Hume and Dr. Smith saw and ably pointed out the injurious operation of the Methuen treaty, and exposed the absurdity of our sacrificing the trade with France to that with so poor and beggarly a country as Portugal. 'Our jealousy and hatred of France,' said Mr. Hume, 'are without bounds. These passions have occasioned innumerable barriers and obstructions on commerce, where we are commonly accused of being the aggressors. But what have we gained by the bargain? We lost the French market for our woollen manufactures, and transferred the commerce of wine to Spain and Portugal, where we buy much worse liquor at a much higher price. There are few Englishmen who would not think their country absolutely ruined, were French wines sold in England so cheap and in such abundance, as to supplant ale and other home-brewed liquors. But, could we lay aside prejudice, it would not be difficult to prove that nothing could be more innocent, perhaps more advantageous. Each new acre of vineyard planted in France, in order to supply England with wine, would make it necessary for the French to take an equivalent in English goods, by the sale of which we should be equally benefited.'—(*Essay on the Balance of Trade*.) Such, however, is the force of prejudice, that it was not till last year that the Methuen treaty was finally abolished, and an end put to the discriminating duty on French wines.

A good many, however, of the impediments that have been thrown in the way of trade between England and France must be ascribed to political jealousy and rivalry. The provinces which our Norman monarchs possessed in France, and their wild efforts to conquer that kingdom kept for a lengthened period the two countries in almost incessant hostilities. And, in more modern times, the fear with which each has not unreasonably been impressed of any accession to the power of the other, and the false estimates so frequently formed of the real sources of power, have made them, even when at peace, distrust and frown upon each other. Had either party clearly perceived their real interests, they would have seen that they could not possibly lose anything, but would most probably gain a great deal, by cultivating a friendly intercourse. But prejudice triumphed over reason: each envied the prosperity, and was disposed to take fire at the fancied encroachments

of the other; and disputes about barren rocks in the Atlantic, hunting grounds in America, and jungle in the East Indies, have been the worthless pretexts for engaging in wars that have filled the whole world with bloodshed and confusion. In this respect, however, mankind is, we hope, becoming more enlightened. 'If political economy had rendered no other service to mankind than to make them just and reasonable in these matters, it would be of incalculable benefit. It has taught us that human improvement, and national prosperity, are not promoted in any particular nation by depressing others, but by aiding, encouraging, and promoting the welfare of every nation around us; that we are all in our turn customers to each other, and that no man, or nation, can become wealthy by impoverishing his customers. The richer other nations are, the more they are enabled to purchase, the cheaper they can afford to sell, the more improved they become in all the arts of living, in all intellectual acquirements, in everything desirable for other nations to imitate or improve upon; that, if other nations become powerful by our assistance, we also of necessity become wealthy and powerful by our intercourse with them; and that peace and good neighbourhood are the means of mutual happiness among nations as among individuals. Formerly these doctrines were considered as the closet dreams of philosophers ignorant of actual life. The discussions of political economy have brought them more to the understanding and feelings of practical men engaged in commerce, or engaged in legislation; and we begin to see gleams of a brighter day in consequence of the lights thus diffused.'—(*Cooper's Lectures*, p. 209.)

Mr. Pitt has the merit of being one of the first British statesmen who clearly perceived the vast advantage that would redound to Great Britain and France were they to avail themselves of their capacities for carrying on a commercial intercourse. The Count de Vergennes, then minister of France, participated in Mr. Pitt's sentiments, and negociators being appointed by both parties, a commercial treaty was agreed upon in 1786. The object of this treaty was to introduce a more liberal system into the trade between the two countries, by moderating the severity of the existing restrictions; and, by familiarising both parties with the advantages of a more extensive intercourse, to teach them to

forget their animosities, and to feel an interest in each other's welfare.

The speech made by Mr. Pitt, in vindication of this treaty, is highly deserving of attention; and whether we refer to the soundness of its general principles, or the ability with which they were enforced, can hardly be too much praised.

France,' said he, 'was, by the peculiar dispensation of Providence, gifted, perhaps, more than any other country upon earth, with what made life desirable, in point of soil, climate, and natural productions. It had the most fertile vineyards and the richest harvests. The greatest luxuries of life were produced in it with little cost, and with moderate labour. Britain was not thus blessed by nature; but, on the other hand, it possessed, through the happy freedom of its constitution, and the equal security of its laws, an energy in its enterprise, and a stability in its exertions, which has gradually raised it to a high state of commercial grandeur; and, not being so bountifully gifted by heaven, it had recourse to labour and art, by which it had acquired the ability of supplying its neighbours with all the artificial embellishments of life, in exchange for their natural luxuries. Thus standing with regard to each other, a friendly connexion seemed to be pointed out between them, instead of that state of unalterable enmity which was falsely said to be their true political feeling towards one another.'

Having triumphantly refuted the commercial arguments against the treaty, Mr. Pitt inquired, in answer to an argument inculcating constant jealousy of France, 'whether, in using the word jealousy, it was meant to recommend to this country such a species of jealousy as should induce her either madly to throw away what was to make her happy, or blindly grasp at what must end in her ruin. Was the necessity of a perpetual animosity with France so evident and pressing, that for it we were to sacrifice every commercial advantage we might expect from a friendly intercourse with that country? or was a pacific connexion between the two kingdoms so highly offensive, that even an extension of commerce could not counterpoise it? The quarrels between France and Britain had too long continued to harass, not only these two great nations themselves, but had frequently embroiled the peace of Europe; nay, they had disturbed the tranquillity of

the most remote parts of the world. They had, by their past conduct, acted as if they were intended for the destruction of each other; but he hoped the time was now come, when they would justify the order of the universe, and show that they were better calculated for the more amiable purposes of friendly intercourse and mutual benevolence.'— 'Considering the treaty,' he continued, 'in a political point of view, he should not hesitate to contend against the too frequently advanced doctrine, that France was, and must be, the unalterable enemy of Britain. To suppose that any nation was unalterably the enemy of another, was weak and childish. It had neither its foundation in the experience of nations, nor in the history of man. It was a libel on the constitution of political societies, and supposed diabolical malice in the original frame of man.'

Mr. Fox opposed the treaty, not so much, perhaps, because he really looked upon it as a bad measure, as from party motives. In the House of Lords, the objections to it were most ably and successfully answered by the Marquis of Lansdowne; and, in the end, it was approved by large majorities in both Houses.

At the same time, however, we should be sorry were it supposed that we look upon the treaty of 1786 as one that should be taken for a model. The negociators were too much influenced by old notions, and the treaty is incumbered with too many conditions. When a few stipulations are agreed upon for giving facility and security to the transactions of merchants, in the buying and selling of such commodities as are not prohibited, for securing their persons and properties, in the event of hostilities breaking out, for the regulation of port-charges, &c., the most seems to be done that ought to be attempted in a commercial treaty. Such a compact may, indeed, bear that the goods and ships of the one party shall be admitted to the markets and ports of the other, on the footing of the most favoured nations, that is, that they shall not be loaded with discriminating duties, but here stipulations ought to stop. All commercial treaties fixing the duties to be paid in either country are radically objectionable. Every people ought always to be able to regulate its tariff as may seem best fitted to promote its own views, without being fettered by engagements with others. It may sometimes, indeed, be expedient to transact with a

foreign country for the mutual abolition of duties or prohibitions; but this ought to be done by a convention for the particular object, the duration of which should be limited to a few years, so that, at its termination, each party may be free either to abide by it, or to enact other regulations. It is absurd to attempt to bind an independent nation to a policy which it considers injurious, by a condition in a commercial treaty, which is sure to be either openly or covertly defeated. The promotion of its own interest ought to be the object of every nation; and this will always be best done by dealing freely and liberally with others, not by grasping at oppressive privileges. 'The proper way to establish a beneficial intercourse between France and England is for each country to form its tariff with reference only to its own real interests. If that be done, all is done that is necessary for the advantage of both countries in their commercial dealings with each other.'—(Sir Henry Parnell on the Commercial Intercourse between France and England.)

The lengthened and bloody contest

that broke out in 1793 deprived the two countries of the advantages they were beginning to derive from the treaty of 1786; but a new, and, we trust, a more auspicious era is now commencing. Nations are beginning to take juster and more enlarged views of their real interests. The repeal, by England, of the discriminating duty on French wine is an earnest that a better spirit is prevailing in our councils; and, we doubt not, will be imitated by the French.

CHAPTER VIII.

1. *Trade of Great Britain with Foreign Countries.*—2. *Decline in the Real Value of the Exports.*—3. *Causes of the Magnitude of British Commerce.*

1. *Trade of Great Britain with Foreign Countries.*—No materials exist for furnishing any estimate, on which any dependence could be placed, of the amount of the articles annually produced and disposed of at home; but the following tables give a pretty complete view of the extent of our trade with other countries.

I. ACCOUNT of the Official Value of British and Irish Produce and Manufactures, and of Foreign and Colonial Produce and Manufactures, Exported from Great Britain and Ireland; distinguishing the several Countries; together with the Imports into Great Britain and Ireland from the same Countries; for the Year ending 5th January, 1831. (Parl. Papers, No. 388, Sess. 1831.)

COUNTRIES.	TRADE OF THE UNITED KINGDOM, In the Year ended 5th January, 1830.											
	GREAT BRITAIN.											
	OFFICIAL VALUE of IMPORTS.			OFFICIAL VALUE OF EXPORTS.								
				British and Irish Produce and Manufactures.			Foreign and Colonial Merchandise.			TOTAL EXPORTS.		
EUROPE:	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Russia . . .	4,180,752	12	5	2,157,251	0	2	997,566	1	11	3,154,817	2	1
Sweden . . .	187,711	2	8	54,726	18	3	103,490	0	5	158,216	18	8
Norway . . .	67,859	15	5	95,794	14	3	49,772	17	10	145,567	12	1
Denmark . . .	484,611	7	4	158,356	7	7	69,288	7	4	227,644	14	11
Prussia . . .	1,295,569	19	1	252,576	3	8	533,590	15	5	786,166	19	1
Germany . . .	1,597,854	1	5	8,384,262	8	1	1,829,101	14	11	10,213,364	3	0
The Netherlands	1,521,085	19	0	2,854,618	19	8	3,019,309	5	1	5,873,928	4	9
France . . .	2,066,890	4	8	509,419	4	7	336,746	2	3	846,165	6	10
Portugal, Azores, and Madeira . . .	373,823	16	8	2,327,862	18	9	60,940	3	1	2,388,803	1	10
Spain & the Canaries	1,074,184	17	7	1,555,518	7	0	259,219	13	0	1,814,738	0	0
Gibraltar . . .	26,578	3	8	982,330	5	0	129,163	7	0	1,111,493	12	0
Italy . . .	804,220	9	4	4,007,185	14	11	899,672	17	7	4,906,858	12	6
Malta . . .	20,784	12	2	458,178	17	8	47,180	4	2	505,359	1	10
Ionian Islands . .	109,448	12	6	34,254	8	3	4,990	9	11	39,244	18	2
Turk. & Cont. Greece	431,062	6	2	1,393,054	18	9	83,072	8	5	1,476,127	7	2
Morea & Grk. Islands	9,657	2	2	—	—	—	—	—	—	—	—	—
Isles Guernsey, Jersey, Alderney, and Man	273,788	9	3	304,352	14	6	98,228	9	3	402,581	3	9
	14,525,883	11	6	25,529,744	1	1	8,521,332	17	7	34,051,076	18	8

TABLE I.—(Continued.)

COUNTRIES.	OFFICIAL VALUE of IMPORTS.			OFFICIAL VALUE OF EXPORTS.								
				British and Irish Produce and Manufactures.			Foreign and Colonial Merchandise.			TOTAL EXPORTS.		
EUROPE: (Brought forward.)	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
	14,526,883	11	6	25,529,744	1	1	8,521,332	17	7	34,051,076	18	8
AFRICA:												
Egypt, Ports on Medit.	223,177	8	3	132,882	12	9	795	17	2	133,178	9	11
Trip., Barb., & Maroc.	30,558	3	1				453	0	0	453	0	0
W. Coast of Africa	258,245	2	1	850,836	17	0	161,171	16	4	511,508	13	4
Cape of Good Hope	232,598	9	6	347,003	5	3	36,424	9	7	383,427	14	10
Cape Verde Islands				93	6	4				93	6	4
St. Helena .	5,813	12	7	30,047	18	0	1,604	4	2	31,652	2	2
Isle of Bourbon				16,137	5	4	1,328	18	11	17,466	4	3
Mauritius .	438,714	9	10	255,522	14	0	24,448	11	5	279,971	5	5
ASIA:												
East Indies & China	7,859,888	1	1	5,856,287	5	2	605,841	1	9	6,462,128	6	11
N.S. Wales, V. Diemen's Land, & Swan River	125,720	8	3	257,071	1	5	87,578	3	2	344,649	4	7
N. Zealand & S. Sea Isl.	583	0	9	826	7	11	320	4	5	1,146	12	4
AMERICA:												
British N. Colonies	881,444	4	5	1,774,069	3	6	253,914	18	3	2,027,984	1	9
British West Indies	8,501,442	10	9	4,739,048	0	7	354,076	3	1	5,093,124	3	8
Foreign West Indies	402,457	11	11	1,819,366	1	1	47,528	1	1	1,866,894	2	2
United States .	6,103,142	10	3	5,734,926	18	7	248,424	1	7	5,983,351	0	2
Mexico .	150,386	14	2	520,402	6	2	124,124	2	1	644,526	8	3
Guatemala .	11,464	2	1	—			—			—		
Columbia .	84,595	18	9	499,815	0	3	12,879	1	9	512,694	2	0
States of Rio de la Plata	536,050	19	3	1,289,055	14	10	17,337	19	0	1,306,393	13	10
Chili .	61,514	5	11	1,375,742	11	2	12,955	15	0	1,388,698	6	2
Peru .	69,839	11	8	376,552	11	1	13,176	4	5	389,728	15	6
Brazil .	1,469,015	2	9	4,566,010	4	8	76,314	7	9	4,642,324	12	0
The Whale Fisheries	361,086	8	11	6	0	0	2,173	7	7	2,179	7	7
Total .	£42,333,617	7	9	55,470,447	5	9	10,604,203	6	1	66,074,650	11	10
IRELAND .	1,669,400	19	3	747,441	5	5	15,964	8	2	763,405	13	7
Total Imports and Ex- ports of United King- dom	44,003,018	7	0	56,217,888	11	2	10,620,167	14	8	66,838,056	5	5

II. ACCOUNT of the Official and of the Real or Declared Values of the Exports of British and Irish Produce and Manufactures from Great Britain, from 1798 to 1830.

Years ended 5th Jan.	Official Value of Exports.	Declared Value of Exports.	Excess of Real Value over Official Value.	Years ended 5th Jan.	Official Value of Exports.	Declared Value of Exports.	Excess of Real Value over Official Value.
1799	£18,556,891	31,252,836	12,695,945	1818	£39,233,467	40,349,235	1,115,768
1800	22,284,941	35,903,850	13,618,909	1819	41,960,555	45,180,150	3,219,595
1801	22,831,936	36,929,007	14,097,071	1820	32,983,689	34,252,251	1,268,562
1802	24,501,608	39,730,659	15,229,051				
1803	25,195,893	45,102,330	19,906,437				
1804	20,042,596	36,127,787	16,085,191				
1805	22,132,367	37,135,746	15,003,379				
1806	22,907,371	37,234,396	14,327,025				
1807	25,266,546	39,746,581	14,480,035				
1808	22,963,772	36,394,443	13,430,671	1821	37,820,293	35,569,077	2,251,216
1809	24,179,854	36,306,385	12,126,531	1822	40,194,681	35,823,127	4,371,554
1810	32,916,858	46,049,777	13,132,919	1823	43,558,488	36,176,897	7,381,591
1811	33,299,408	47,000,926	13,701,518	1824	43,166,039	34,589,410	8,576,629
1812	21,723,532	30,850,618	9,127,086	1825	48,024,952	37,600,021	10,424,931
1813	28,447,912	39,334,526	10,886,614	1826	46,453,022	38,077,330	8,375,692
1814		Records destroyed by fire.		1827	40,332,854	30,847,528	9,485,326
1815	33,200,580	43,447,373	10,246,793	1828	51,279,102	36,394,817	14,884,285
1816	41,712,002	49,653,245	7,941,243	1829	52,019,728	36,150,379	15,869,349
1817	34,774,521	40,328,940	5,554,419	1830	55,465,723	35,212,873	20,252,850

III. ACCOUNT of the Quantities of the Principal Articles of Foreign and Colonial Merchandise imported and retained for Home Consumption, and also the Quantity exported, in the year 1830 (fractional quantities omitted.)

		Quantities imported.	Retained for Home Con- sumption.	Quantities exported.
Ashes, pearl and pot	cwts.	162,258	143,657	19,780
Barilla	do.	165,338	236,563	—
Bark, oak, and cork tree	do.	1,009,816	1,004,070	—
Brimstone, rough	do.	302,038	313,766	—
Bristles	lbs.	1,715,488	1,695,083	—
Butter	cwts.	148,139	147,951	—
Cassia lignea	lbs.	817,968	62,252	795,242
Cheese	cwts.	168,900	166,484	—
Cinnamon	lbs.	544,225	29,720	386,108
Cloves	do.	36,071	48,638	57,904
Cochineal	do.	288,456	127,954	153,738
Cocoa-nuts	do.	3,209,933	393,847	1,674,613
Coffee	do.	39,071,215	19,466,028	23,023,410
Copper, unwrought	cwts.	10,267	14	13,743
Cork, unmanufactured	do.	46,494	45,636	—
Corn:—				
Wheat	qrs.	1,544,969	1,267,914	52,190
Barley	do.	281,713	202,405	10,297
Oats	do.	541,858	192,889	58,635
Rye	do.	65,910	65,331	7,861
Pease and beans	do.	82,139	96,513	2,345
Wheat-meal and flour	cwts.	461,895	337,065	70,652
Cortex Peruvianus or Jesuits' bark	lbs.	405,552	103,695	296,382
Cotton, piece goods of India, not printed	pieces	1,403,397	value £44,883	614,085
Cottons, printed	sq. yds.	131,420	2,873	171,969
Currants	cwts.	119,927	114,076	—
Dye and hard woods:—				
Fustic	tons	7,364	6,006	—
Logwood	do.	13,893	8,851	6,226
Mahogany	do.	19,335	16,546	—
Elephants' teeth	cwts.	4,345	3,605	—
Figs	do.	21,938	19,702	—
Flax and tow, and codilla of hemp, &c.	do.	922,039	909,709	—
Furs:—				
Bear	number	12,583	884	14,227
Beaver	do.	76,427	68,665	—
Fitch	do.	278,740	278,846	—
Martin	do.	151,937	121,741	49,712
Mink	do.	77,361	34,109	—
Musquash	do.	1,070,016	491,978	281,347
Nutria	do.	618,187	629,170	—
Gitter	do.	14,862	857	14,751
Onger	cwts.	11,007	5,947	11,209
Gum:—				
Arabic	do.	8,232	17,249	2,049
Lac-dye	lbs.	594,494	462,988	26,763
Shell-lac	do.	703,886	316,070	446,598
Hats, straw	number	160,195	234,254	—
Hemp, undressed	cwts.	374,932	422,121	—
Hides, untanned	do.	286,416	231,874	—
Indigo	lbs.	6,748,281	2,113,830	4,286,605
Iron in bars	tons	15,720	13,067	3,024
Lead, pig	do.	1,508	35	1,700
Leather gloves	pairs	865,157	837,208	—
Lemons and Oranges:—				
Packages not exceeding 5000 cubic inches	.	53,215	48,921	—
Ditto above 5000, and not exceeding 7300	.	130,946	130,348	—
Ditto above 7300, and not exceeding 14,000	.	67,336	65,669	—
Linens,—Cambrics, &c.	pieces	40,778	41,224	—

	Quantities imported.	Retained for Home Con- sumption.	Quantities exported.
Linens, plain and diaper:—			
Entered by the ell	ells 372,697	—	451,533
Entered by the piece	pieces 31,638	—	30,175
Entered by the square yard	sq. yds. 138,458	692	124,200
Entered at value	£. 4,031	6,674	1,144
Liquorice juice	cwts. 4,440	5,795	—
Mace	lbs. 6,841	14,254	20,106
Madder	cwts. 70,017	69,658	—
Madder root	do. 33,541	39,804	—
Molasses	do. 394,432	386,142	—
Nutmegs	lbs. 38,868	113,273	47,913
Oil:—			
Castor	lbs. 396,104	293,028	—
Olive	gallons 1,153,834	1,334,758	—
Palm	cwts. 179,945	175,393	—
Train—Blubber	tuns 5,754	5,754	—
Spermaceti	do. 5,571	5,694	—
Not blubber or spermaceti	do. 11,974	9,047	—
Opium	lbs. 48,634	23,970	41,919
Pepper	do. 2,015,184	1,933,641	2,962,063
Pimento	do. 3,599,268	339,013	2,732,493
Prunes	cwts. 6,283	6,245	—
Quicksilver	lbs. 635,905	162,816	575,552
Raisins	cwts. 145,750	121,737	—
Rhubarb	lbs. 146,881	33,673	91,738
Rice	cwts. 222,547	116,854	95,584
Rice in the husk	bushels 293,354	222,472	—
Safflower	cwts. 4,623	4,370	—
Sago	do. 486	4,026	—
Saltpetre	do. 176,489	155,095	34,537
Sarsaparilla	lbs. 228,164	104,679	—
Seeds:—			
Clover	cwts. 40,529	88,662	—
Flax and Linseed	bushels 2,052,258	1,899,936	—
Rape	do. 378,304	375,162	—
Tares	do. 87,101	101,160	—
Senna	lbs. 187,492	122,601	—
Shumac	cwts. 80,191	78,874	—
Silk:—			
Raw and waste	lbs. 3,594,754	2,601,516	221,412
Thrown	do. 211,179	168,985	26,715
Manufactures of Europe	do. 132,313	121,584	6,909
India, viz.:—			
Bandanas, Romals, &c.	pieces 99,393	67,465	79,886
Crape in pieces	do. 53	Before July 5, lbs. 7,675	602
Crape scarfs, shawls, &c.	number 70,299	After July 5, £5,926	13,981
Taffaties, damasks, &c.	pieces 9,052		4,064
Skins:—			
Calf and kid, untanned	cwts. 43,764	43,046	—
Deer, undressed	number 123,276	36,314	101,387
Goat, undressed	do. 306,579	182,062	113,724
Kid, undressed	do. 106,319	107,513	—
—, dressed	do. 591,094	591,091	—
Lamb, undressed	do. 1,888,487	1,887,891	—
Seal, undressed	do. 289,541	262,446	—
Smalts	lbs. 376,675	353,468	—
Spelter	cwts. 84,603	12,430	79,279
Spirits:—			
Rum	proof gallons 6,938,426	3,375,866	1,644,663
Brandy	do. 1,994,649	1,300,746	661,097
Geneva	do. 177,847	37,146	148,176
Sugar, unrefined	cwts. 4,856,393	3,539,821	297,912
Tallow	do. 1,177,908	1,024,993	—

	Quantities imported.	Retained for Home Consumption.	Quantities exported.
Tar	5,812	6,492	—
Tea	30,544,404	29,495,205	251,971
Timber:—			
Battens and Batten ends	great hundreds	11,149	11,065
Deals and Deal ends	do.	51,587	51,890
Lathwood	fathoms	10,386	10,282
Masts, yards, &c., under 12 inches diameter	number	13,475	13,676
Ditto, 12 inches and above	do.	4,803	5,591
Oak-plank, 2 inches thick or upwards	loads	1,433	1,551
Staves	great hundreds	95,953	89,009
Teak	loads	16,924	16,835
Timber, 8 inches square or upwards	do.	549,259	541,565
Wainscot logs, ditto	do.	4,221	3,407
Tin	cwts.	2,674	2,581
Tobacco, unmanufactured	lbs.	22,399,335	18,819,021
Tobacco, manufactured, and snuff	do.	169,634	66,743
Turpentine, not worth more than 12s. per cwt.	cwts.	262,832	277,509
Valonia	do.	111,391	110,773
Wax, bees'	do.	11,699	6,568
Whale-fins	do.	13,305	12,876
Wool, cotton	lbs.	222,767,767	204,097,037
Wool, sheep's	do.	21,525,542	22,614,550
Wine:—			
Cape	gallons	967,363	579,744
French	do.	498,320	365,336
Portugal	do.	2,405,342	2,682,084
Spanish	do.	2,841,030	1,964,162
Madeira	do.	320,581	229,392
Canary	do.	199,026	101,699
Rhenish	do.	85,858	76,396
Other sorts	do.	300,677	218,839
Yarn, linen, raw	cwts.	29,646	29,645
Zaffa	lbs.	158,026	157,085

2. *Decline in the Real Value of the Exports.*—The increase in the official, and the decline in the real or declared value of the exports, since 1815, has given rise to a great deal of irrelevant discussion. It has been looked upon as a proof that our commerce is daily becoming less prosperous, whereas, in point of fact, a precisely opposite conclusion should be drawn from it. We have already stated, that the rates according to which the official values of the exports are determined, were fixed so far back as 1696, so that they have long ceased to be of importance, as affording any criterion of their actual value, their only use being to show the fluctuations in the *quantities* exported. To remedy this defect, a plan was formed, during the early part of Mr. Pitt's administration, for keeping an account of the *real* value of the exports, as ascertained by the declarations of the exporters. Those who contend that our trade is getting into a

bad condition, argue that the great increase in the official value of the exports since 1815, shows that the *quantity* of the articles exported has been proportionally augmented; while the fall in their real value shows that we are selling this larger quantity for a smaller price, a result which they affirm is most injurious. But the circumstance of a manufacturer, or a merchant, selling a large or a small quantity of produce at the same price, affords no criterion by which to judge as to the advantage or disadvantage of the sale; for, in consequence of improvements in the arts, or otherwise, a particular article may now be produced for half the expense that its production cost ten or twenty years ago, it is obvious that double the quantity of it may be afforded at the same price, without injury to the producers. Now, this is the case with some of the most important articles exported from England, Cottons, and cotton-twist, form a full half,

or more, of our entire exports; and, since 1814, there has been an extraordinary fall in the price of these articles, occasioned partly by cotton wool having fallen from about 1s. 6d. per lb. to about 7d. per lb., but more by improvements in the manufacture. To such an extent have these causes operated, that yarn, No. 40, which cost, in 1812, 2s. 6d., cost, in 1830, 1s. 2½d.; in 1812, No. 60 cost 3s. 6d., in 1830 it cost 1s. 10½d.; in 1812, No. 80 cost 4s. 4d., in 1830 it cost 2s. 6½d., and so on; and in the weaving department the reduction has been similar. Hence, while the official value of the exports of cotton goods and twist has increased from about 18,000,000*l.* in 1814, to about 37,000,000*l.*, in 1830, their declared value has sunk from about 20,000,000*l.* at the former period, to about 16,000,000*l.* at the latter. Surely, however, this is, if anything can be, a proof of increasing prosperity: it shows that we can now export, and sell with a profit, (for, unless such were the case, does any one imagine the exportation would continue?) nearly double the quantity of cotton goods and yarn we exported in 1814, for about the same price. In so far, therefore, as an abundant and cheap supply of cottons may be supposed to increase the comforts of society, it is plain they must be about double, not in this country only, but in all those countries to which we export.—(*M'Culloch's Dictionary of Commerce*, Article COTTON.)

Owing to the fall that has taken place in the prime cost, and consequently in the price, of most of the principal articles of import, we obtain, at this moment, a much larger quantity of the produce of other countries in exchange for the articles we send abroad, than at any former period. The fall has been particularly sensible in the great articles of sugar, sheep's-wool, cotton-wool, corn, indigo, pepper, &c. The imports of all sorts of foreign merchandise have been increasing rapidly since 1815; and it is material to bear in mind, that we had no gold coin in circulation at that epoch, and that, besides the greater quantities of other articles, we have imported, in the intervening period, an extra supply of from 40 to 50,000,000*l.* of gold and silver. The truth is, therefore, that, instead of the decline in the real value of our exports having been in any degree prejudicial, it has been, in all respects, distinctly and completely the reverse. It has ensured for our

goods a decided superiority in every market, while, as the cost of the articles has fallen in an equal degree, their production continues equally advantageous. It appears, too, that a similar fall has been going on in other countries; that if we send more goods to the foreigners, they send us more of theirs in return. Instead of being an evidence of decline, increased facilities of production and increased cheapness are the most characteristic and least equivocal marks of commercial prosperity.

3. *Causes of the Magnitude of British Commerce.*—The immediate cause of the rapid increase and vast magnitude of the commerce of Great Britain is, doubtless, to be found in the extraordinary improvements, and consequent extension, of our manufactures since 1770. The cotton manufacture may be said to have grown up during the intervening period. It must also be borne in mind, that the effect of an improvement in the production of any article in considerable demand is not confined to that particular article, but extends itself to others. Those who produce it according to the old plan, are undersold unless they adopt the same or similar improvements; and the improved article, by coming into competition with others for which it may be substituted, infuses new energy into their producers, and impels every one to put forth all his powers, that he may either preserve his old, or acquire new advantages. The cotton manufacture may be said to be the result of the stupendous inventions and discoveries of Hargraves, Arkwright, Crompton, and a few others; but we should greatly underrate the importance of their inventions, if we supposed that their influence was limited to this single department. They imparted a powerful stimulus to every branch of industry. Their success, and that of Watt and Wedgwood, gave that confidence to genius so essential in all great undertakings. After machines had been invented for spinning and weaving cottons whose fineness emulates the web of the gossamer, and steam-engines had been made 'to engrave seals, and to lift a ship like a bauble in the air,' everything seemed possible—*nil arduum visum est*. And the unceasing efforts of new aspirants to wealth and distinction, and the intimate connexion of the various arts and sciences, have extended and perpetuated the impulse given by the

invention of the spinning-frame and the steam-engine.

The immense accumulation of capital that has taken place since the close of the American war has been at once a cause and a consequence of our increased trade and manufactures. Those who reflect on the advantages which an increase of capital confers on its possessors can have no difficulty in perceiving how its increase operates to extend trade. It enables them to buy cheaper, because they buy larger quantities of goods, and pay ready money; and, on the other hand, it gives them a decided superiority in foreign markets where capital is scarce, and credit an object of primary importance with the native dealers. To the manufacturer, an increase of capital is of equal importance, by giving him the means of constructing his works in the best manner, and of carrying on the business on such a scale as to admit of the most proper distribution of whatever has to be done among different individuals. These effects have been strikingly evinced in the commercial history of Great Britain during the last half century; and thus it is, that capital, originally accumulated by means of trade, gives, in its turn, nourishment, vigour, and enlarged growth to it.

The improvement that has taken place in the mode of living during the last half century has been partly the effect, and partly the cause, of the improvement of manufactures, and the extension of commerce. Had we been contented with the same accommodations as our ancestors, exertion and ingenuity would long since have been at an end, and routine have usurped the place of invention. Happily, however, the desires of man vary with the circumstances under which he is placed, extending with every extension of the means of gratifying them, till, in highly civilised countries, they appear almost illimitable. This endless craving of the human mind, its inability to rest satisfied with previous acquisitions, combined with the constant increase of population, renders the demand for new inventions and discoveries as intense at one period as at another, and provides for the continued advancement of society. What is a luxury in one age, becomes a necessary in the next. The fact of Queen Elizabeth having worn a pair of silk stockings was reckoned deserving of notice by contemporary historians; while, at present, no individual, in the rank of a

gentleman, can go to dinner without them. The lower classes are continually pressing upon the middle; and these, again upon the higher; so that invention is racked, as well to vary the modes of enjoyment, as to increase the amount of wealth. That this competition should be, in all respects, advantageous, is not to be supposed. Emulation in show, though the most powerful incentive to industry, may be carried to excess; and has certainly been ruinous to many individuals, obliged sometimes, perhaps, by their situation, or seduced by example, to incur expenses beyond their means. We have already pointed out the peculiarly destructive influence of improvident expenditure on the circumstances and condition of merchants; but the abuse, even when most extended, as it probably is in England, is, after all, confined within comparatively narrow limits; while the beneficial influence resulting from the general diffusion of a taste for improved accommodations adds to the science, industry, wealth, and enjoyments of the whole community.

We are also inclined to think that the increase of taxation, during the late war, contributed to the improvement of manufactures, and the extension of trade. The gradually increasing pressure of the public burthens stimulated the industrious portion of the community to make corresponding efforts to preserve their place in society; and produced a spirit of invention and economy that we should have in vain attempted to excite by any less powerful means. Had taxation been very oppressive, it would not have had this effect; but it was not so high as to produce either dejection or despair, though it was, at the same time, sufficiently heavy to render a considerable increase of exertion and parsimony necessary, to prevent it from encroaching on the fortunes of individuals, or, at all events, from diminishing the rate at which they were previously accumulating. To the excitement afforded by the desire of rising in the world, the fear of falling superadded an additional and powerful stimulus; and the two together produced results that could not have been produced by the unassisted operation of either. We do not think that any evidence has been, or can be, produced to show, that the capital of the country would have been materially greater than it is, had the tranquillity of Europe been maintained uninterrupted from 1793 to the present moment.

We do not state these circumstances in order to extenuate the evils of war, or of oppressive taxation; but merely to show the real influence of taxation on industry, when gradually augmented and kept within reasonable bounds. Under such circumstances, it has the same influence on a nation that an increase of his family, or of his unavoidable expenses, has on a private individual.

But after every fair allowance has been made for the influence of the causes above stated, and others of a similar description, still it is abundantly certain that a liberal system of government, affording full scope for the expansion and cultivation of every mental and bodily power, and securing all the advantages of superior talent and address to their possessors, is the grand *sine qua non* of commercial and manufacturing prosperity. Where oppression and tyranny prevail, the inhabitants, though surrounded by all the means of civilization and wealth, are invariably poor and miserable. In respect of soil, climate, and situation, Spain has a decided advantage over Great Britain; and yet, what a miserable contrast does she present, when compared with England! The despotism and intolerance of her rulers, and the want of good order and tranquillity, have extinguished every germ of improvement in the Peninsula, and sunk the inhabitants to the level of the Turks and Moors. Had a similar political system been established in England, we should have been equally depressed. Our superiority in science, arts, and arms, though promoted by subsidiary means, is, at bottom, the result of *freedom and security*—freedom to engage in every employment, and to pursue our own interest in our own way, coupled with an intimate conviction, derived from the nature of our institutions, and their opposition to every thing like arbitrary power, that acquisitions, when made, may be securely enjoyed or disposed of. These form the grand sources of our wealth and power. There have only been two countries, Holland and the United States, which have, in these respects, been placed under nearly the same circumstances as England; and, notwithstanding they inhabit a morass, defended only by artificial mounds, from being deluged by the ocean, the Dutch have long been, and still continue to be, the most prosperous and opulent people of the

continent; while the Americans, whose situation is more favourable, are advancing in the career of improvement with a rapidity hitherto unknown. In Great Britain we have been exempted, for a lengthened period, from foreign aggression and intestine commotion; the pernicious influence of the feudal system has long been at an end; the same equal burthens have been laid on all classes; we have enjoyed the advantage of liberal institutions, without any material alloy of popular licentiousness or violence; our intercourse with foreign nations, though subjected to many vexatious restraints, has been comparatively free; full scope has been given to the competition of the home producers; the highest offices have been open to deserving individuals; and, on the whole, the natural order of things has been less disturbed amongst us by artificial restraints than in most other countries. But without security, no degree of freedom would have been of material importance. Happily, however, every man has felt satisfied, not only of the temporary, but of the permanent tranquillity of the country, and of the stability of its institutions. The plans and combinations of the capitalists have not been affected by misgivings as to what might take place in future. Monied fortunes have not been amassed in preference to others, because they might be more easily sent abroad in periods of confusion and disorder; but all individuals have unhesitatingly engaged, whenever an opportunity offered, in undertakings of which a remote posterity was alone to reap the benefit. No one can look at the immense sums expended upon the permanent improvement of the land, on docks, warehouses, canals, &c., or reflect for a moment on the settlements of property in the funds, and on the extent of our system of life insurance, without being deeply impressed with the vast importance of that confidence which the public have placed in the security of property, and the good faith of government. Had this confidence been imperfect, industry and invention would have been paralysed; and much of that capital which feeds and clothes the industrious classes would never have existed. The preservation of this security entire, both *in fact and in opinion*, is essential to the public welfare. If it be anywise impaired, the colossal fabric of our prosperity will crumble into dust; and the commerce of London, Liverpool,

and Glasgow, like that of Tyre, Carthage, and Palmyra, will, at no very remote period, be famous only in history.

CHAPTER IX.

English legislation with respect to Aliens — Conditions under which Aliens at present reside in the Kingdom—Policy of these Conditions.

THOUGH most commonly overlooked by writers on commerce, the regulations as to the residence of aliens or foreigners visiting a country have a material influence on its trade and on the arts carried on in it. We need, therefore, make no apology for submitting a few statements as to this important subject.

The English legislation, with respect to aliens, has fluctuated, according as enlarged and liberal, or as narrow and selfish views of national policy have predominated. It is worthy of remark, that a clause is inserted in Magna Charta, which has the encouragement of commerce for its object; and which bears, that 'all merchants (if they were not openly prohibited before) shall have safe and sure conduct to depart out of and to come into England, to reside in and go through England, as well by land as by water; to buy and sell without any manner of evil tolls, by the old and rightful customs, except in time of war; and if they be of a land making war against us, and such be found in our nation at the beginning of the war, they shall be attached without harm of body or goods, until it be known unto us, or our chief justice, how our merchants be entreated in the land making war against us; and if our merchants be well entreated there, shall be so likewise here.'

But notwithstanding this clause, and the efficient support very frequently afforded by our kings and nobles to foreign merchants and artisans, they have, generally speaking, been the objects of popular hatred. A prejudice against foreigners seems, indeed, to be indigenous to all rude, or imperfectly civilised nations. The early Greeks and Romans regarded strangers as a species of enemies, with whom, though not actually at war, they maintained no sort of friendly intercourse. *Hostis apud antiquos peregrinus dicebatur*, says Pomponius Festus. (See also Cicero de Offi-

ciis, lib. i., cap. 12.) Until the era of Edward I. the stipulation in the Great Charter as to foreign merchants seems to have been little attended to. It is doubtful whether, previously to his reign, they could either hire houses of their own, or deal except through the medium of some Englishman. But this intelligent prince saw the advantage that would result to the trade and industry of his subjects from the residence and intercourse of Germans, Flemings, Italians, and other foreigners, who, at that time, were very superior to the English in most branches of manufactures and commerce. He, therefore, exerted himself to procure a repeal of some of the more oppressive restrictions on aliens, and gave them a charter which conveyed considerable privileges*. Down, however, to the reign of Edward III., it continued to be customary to arrest one stranger for the debt, and even to punish him for the crimes and misdemeanours of others! It may appear extraordinary that the gross injustice of this barbarous regulation ever permitted it to be adopted; and yet it was probably, at one period, the common law of most European states. As soon, however, as the foundations of good order and civilisation began to be laid, its operation was seen to be most pernicious. In 1325, Edward II. entered into a convention with the Venetians, in which it was expressly stipulated that they should have full liberty to come to England to buy and sell commodities, without being liable for the debts or crimes of others. Conventions to the same effect were entered into with other foreigners. At length, in 1353, this disgraceful practice was put an end to by 27 Edward III., stat. ii., cap. 17; it being provided in this statute, not only that no stranger shall be impeached for the trespass or debt of another, but that in the event of a war breaking out with any foreign power, its subjects, residing amongst us, shall be warned thereof by proclamation, and be allowed forty days to arrange their affairs, and to depart out of the kingdom; and that, under special circumstances,

* This charter was confirmed by Edward III. in 1328. Among other clauses, it has the following, viz.: 1st. That on any trial between foreigners and Englishmen, the jury shall be half foreigners; 2nd. That a proper person shall be appointed in London to be justiciary for foreign merchants; and 3rd. That there shall be but one weight and measure throughout the kingdom. Anderson, Anno 1302.

this term may be extended. There are few acts in the statute-book that reflect more credit on their proposers, or that have been more advantageous than this.

Perhaps, however, the reign of Edward III. is, in a commercial point of view, still more remarkable, from its being the era of very great improvements in the woollen manufacture. In 1331, Edward, judiciously availing himself of some discontents amongst the manufacturers in Flanders, invited them over to England. Historians mention that an extensive manufacturer, of the name of John Kemp, was the first who accepted this invitation. Having come over, with his workmen and apprentices, he was most graciously received by the king, who took him under his immediate protection; and published a proclamation, promising the like reception to all foreign weavers, dyers, and fullers, who should come and settle in England. In consequence about seventy families of Flemish manufacturers are said to have come over in the course of the same year; and these were followed by many more during the subsequent years of King Edward's reign. These wise and politic measures were, however, exceedingly unpopular. The foreigners were openly insulted, and their lives endangered in London and other large towns; and a few of them in consequence returned to Flanders. But Edward was not to be driven from his purpose by an unfounded clamor of this sort. A proclamation was issued, in which every person accused of disturbing or attacking the foreign weavers was ordered to be committed to Newgate, and threatened with the utmost severity of punishment. In a parliament held at York, in 1335, an act was passed for the better protection and security of foreign merchants and others, by which penalties were inflicted on all who gave them any disturbance. This seems to have had the effect, for a while, at least, of preventing any outrages.

The corporations of London, Bristol, and other great towns, have been at all times the principal enemies to the immigration of foreigners. Perhaps, indeed, they were not more hostile to them than to such of their own countrymen, belonging to another part of the kingdom, as should have attempted to settle amongst them without being free of their corporation. But in denouncing foreigners they had the national preju-

dice on their side; and their attempts to confirm and extend their monopolies by their exclusion, were regarded as the noblest efforts of patriotism! Edward III. was fully aware of the real motives by which they were actuated, and steadily resisted their pretensions. But in the reigns of his successors they succeeded better: some of these were feeble and unfortunate, while others enjoyed the crown only by a disputed title, and in defiance of powerful competitors. The support of the great towns was of the utmost consequence to such princes, who, whatever might be their own opinion as to its policy, could hardly venture to resist the solicitations of such powerful bodies to exclude strangers, and to impose restrictions on commerce. From the death of Edward III. to the reign of Elizabeth, the progress made by the country was not inconsiderable, but it was little promoted by legislative enactments. Throughout the whole of this period, the influence of corporations seems to have predominated in all matters relating to trade and the treatment of foreigners; and our legislation partook of the selfish, monopolising character of the source whence it was principally derived. Were the acts and proceedings as to aliens the only extant memorials of our policy from 1377 to 1560, we should certainly seem to have retrograded materially during the interval. Some of these acts were passed with so little consideration, and were so very absurd, that they had to be immediately repealed. Of this sort was the statute of the 8 Henry VI. cap. 24, to the effect, 'That no Englishman shall within this realm sell, or cause to be sold, hereafter, to any merchant alien, any manner of merchandises, but only for ready payment in hand, or else in merchandises for merchandises, to be paid and contented in hand, upon pain of forfeiture of the same.' But as an enactment of this sort was very speedily found to be more injurious to ourselves than to the foreigner, it was repealed in the following sessions.

The more tyrannical their conduct in other respects, the more were our princes disposed to humour the national prejudice against foreigners. If not a cheap, it was, at least, an easy method of acquiring popularity. In the very first parliament after the accession of Richard III., a statute was passed full of the most ridiculous, contradictory, and unfounded allegations as to the injury

sustained by the influx of foreigners, and laying them under the most oppressive restraints. Considering, indeed, the sort of treatment to which aliens were then exposed, it may excite surprise that they should have thought of visiting the country; and, in point of fact, it appears that the resort of foreign merchants to our ports was materially impaired by the statutes referred to, and others of the same description. This is evident from the act 19 Henry VII. cap. 6, where it is stated that 'woollen cloth is not sold or uttered as it hath been in divers parts,' and that 'foreign commodities and merchandises are at so dear and exceeding high price, that the buyer cannot live thereon.' But in despite of this authoritative exposition of the mischiefs arising from the restraints on aliens, and on trade, they were both increased in the reign of Henry VIII. And it was not till the reign of Elizabeth that the pretensions of the corporations seem to have been disregarded, and an attempt made to act, not by starts, but consistently, on the policy of Edward III.

The influx of foreigners during the reign of Elizabeth was occasioned chiefly by the persecutions of the Duke of Alva and the Spaniards in the Low Countries. The friends of the reformed religion, which, at the time, was far from being firmly established, and the government, were glad to receive such an accession of strength; and from the superiority of the Flemings in commerce and manufactures, the immigrants contributed materially to the improvement of the arts in England. It would seem, however, that the ministers of Elizabeth contented themselves, perhaps that they might not excite the public prejudice, with declining to enforce the laws against aliens, without taking any very active steps in their favour.

In the reign of James I. the corporation of London renewed with increased earnestness their complaints of aliens. In 1622 a proclamation was issued, evidently written by James himself, in which, under pretence of keeping 'a due temperament' between the interests of the complainants and those of the foreigners, he subjects the latter to fresh disabilities.

Since the revolution more enlarged and liberal views as to the conduct to be followed with respect to aliens have continued to gain ground: several of the restraining statutes have fallen into dis-

use, while others have been so much modified by the interference of the courts, which have generally been inclined to soften their severity, that their more offensive provisions are become inoperative. Attempts have occasionally been made to pass an act for the general naturalization of foreign Protestants, and the policy of such a measure was ably vindicated by Dean Tucker, in two celebrated tracts published in 1751 and 1752*. But no such statute has hitherto been passed, and aliens still continue subject to various disabilities. The principal of these regards the possession of fixed property. It is ruled that lands purchased by an alien for his own use, may be seized by the king. 'If,' says Blackstone, 'he could acquire a permanent property in lands, he must owe an allegiance, equally permanent with that property, to the king of England; which would probably be inconsistent with that which he owes to his own natural liege lord: besides that, thereby the nation might in him be subject to foreign influence, and feel many other inconveniences. Wherefore by the civil law such contracts were made void, but the prince had no such advantage of forfeiture thereby as with us in England.'—(*Commentaries*, Book i. Cap. 10.)

An alien cannot take a benefice without the king's consent, nor can he enjoy a place of trust, or take a grant of lands from the crown. Aliens may, however, acquire property in money, goods, or other personal estate, and may have houses for the purpose of their habitation, and for carrying on their business. They may bring actions as to their personal effects, and may dispose of them by will. The *droit d'aubaine*, (*jus albinatus*, i.e. *alibi natus*), or the right of the crown to succeed to the effects of an alien at his death, so long the custom in France, never obtained in England. If an alien abroad die intestate his whole property here is distributed according to the law of the country where he resided; but such residence must have been stationary, and not occasional, otherwise the foreign municipal regulations will not apply to the property.

The reasons assigned by Mr. Justice Blackstone and others for preventing aliens from acquiring fixed property

* Historical Remarks on the late Naturalization Bill, 1751; Queries occasioned by the late Naturalization Bill, 1752.

seem to be very unsatisfactory. In small states there might be grounds, perhaps, for fearing lest the easy admission of aliens to the rights of citizenship should give them an improper bias; but in a country like England, such apprehensions would be quite futile. In this respect the example of Holland seems quite decisive. Notwithstanding the comparatively limited population of that country, it was 'the constant policy of the republic to make Holland a perpetual, safe, and secure asylum for all persecuted and oppressed strangers; no alliance, no treaty, no regard for, nor solicitation of any potentate whatever has at any time been able to weaken or destroy, or make the state recede from protecting, those who have fled to it for their own security and self-preservation*.'

A short residence in the country, and a small payment to the state, was all that was required in Holland to entitle a foreigner to every privilege enjoyed by a native. It is of importance to remark, that it has not been so much as insinuated that this liberal conduct was in any instance productive of a mischievous result. On the contrary, all the highest authorities consider it as one of the main causes of the extraordinary progress made by the republic in wealth and commerce. It is said in the official paper just quoted, that "Throughout the whole course of all the persecutions and oppressions, that have occurred in other countries, the steady adherence of the republic to this fundamental law has been the cause that many people have not only fled hither for refuge, with their whole stock in ready cash, and their most valuable effects, but have also settled and established many trades, fabrics, manufactures, arts, and sciences, in this country; notwithstanding the first materials for the said fabrics and manufactures were almost wholly wanting in it, and not to be procured but at a great expense from foreign parts†."

With such an example to appeal to, we are warranted in affirming that nothing can be more ridiculous than to suppose that any number of foreigners which it is at all likely should ever come to England, under the most liberal system, could occasion any political inconvenience; and in all other respects their immigration would be advan-

tageous. A general naturalization act would, therefore, as it appears to us, be a wise and politic measure. It might be enacted that those only who had resided three or four years in the country, and given proofs of their peaceable conduct, should be entitled to participate in its advantages.

CHAPTER X.

Remarks on the Progress of Commerce and Industry in England, from the accession of Edward I. to the death of Elizabeth.

§ 1. *Progress of Commerce and Industry in England from the accession of Edward I. to the accession of Henry VII.*—DR. ROBERTSON has remarked, that the early progress of commerce in England gave no earnest of the vast extent to which it was destined to arrive. Its growth was at first extremely slow. During the Saxon Hepharchy, England, split into many kingdoms, which were perpetually at variance with each other, exposed to the fierce invasions of the Danes and other northern pirates, and sunk in barbarity and ignorance, was in no condition to cultivate commerce, or to pursue any system of useful and salutary policy. When a better prospect began to open by the union of the kingdom under one monarch, the Norman conquest took place. This occasioned such a sudden and total revolution in the state of property as has hardly been paralleled in any other country. The conqueror divided almost the whole kingdom among his followers; and the disorders incident to the establishment of the feudal system, the oppressive and rapacious conduct of the great barons, many of whom possessed almost regal power, and the enslaved and degraded condition of the mass of the people, prevented all but the rudest and most indispensable species of industry from being attempted.

The great charter, extorted in 1215 by the barons from King John, established, for the first time, principles to which all men could appeal; and which were hostile alike to the violence of the crown and of the nobles. From this period the constitution began to acquire stability; and the English and Normans having gradually coalesced, became, in the thirteenth century, one people. Industry began to revive, and was prose-

* Proposals for amending the Trade of Holland, printed by Authority. Lond. 1751.

† Ibid. in loc. cit.

cuted with an energy previously unknown, during the reign of Edward I. Though many of the measures of this able prince were strongly marked with the prevalent prejudices of the time, his administration is, on the whole, entitled to very high praise. 'He considered,' says Hume, 'the great barons both as the immediate rivals of the crown, and the oppressors of the people; and he proposed by an exact distribution of justice, and a rigid execution of the laws, to give at once protection to the superior orders of the state, and to diminish the arbitrary power of the great, on which their dangerous authority was chiefly founded. Making it a rule of his own conduct to observe, except on extraordinary occasions, the privileges secured to them by the great charter, he acquired a right to insist upon their observance of the same charter towards their vassals and superiors; and he made the crown be regarded by all the quality and commonalty of the kingdom, as the great fountain of justice, and the general asylum against oppression. Besides making several excellent statutes, in a Parliament which he summoned at Westminster, he took care to inspect the conduct of all his magistrates and judges, to displace such as were either negligent or corrupt, to provide them with sufficient force for the execution of justice, to root out all bands and confederacies of robbers, and to repress those more silent robberies, which were committed either by the power of the nobles, or under the countenance of public authority. By this rigid administration the face of the kingdom was soon changed; and order and justice took place of violence and oppression.'—(*Hist. of England*, chap. 13.)

Previously to the reign of Edward I., there seems to have been no legal process for the recovery of debts due to merchants or traders. But in 1285 (13th Edward I.), a statute was passed for enabling merchants, as well in fairs and markets as in towns and cities, to recover their debts. 'The want of which good regulations, (it is said in the preamble to the act,) has occasioned many merchants to fall into poverty, and also hindered foreign merchants coming into this realm with their merchandise; to the great hurt and damage of merchants and of all the realm.' This act authorizes the summoning of debtors to foreign merchants before the mayors

of London, York, and Bristol; a proof that these were considered, at this remote period, the most eminent commercial cities in the kingdom. Indeed, several large towns, now of the first consequence, as Hull, did not then exist, while many others, as Manchester, Leeds, Birmingham, Liverpool, &c., were quite inconsiderable.

The improved state of things, introduced by Edward I. was changed materially for the worse during the reign of his feeble and unfortunate son and successor, Edward II. But it was again restored during the reign of Edward III., which forms an important epoch in our commercial history.

The little commerce carried on by the English, from the conquest to the accession of Edward III., in 1327, was restricted to a few articles. The imports principally consisted of woollen cloths from the Netherlands, wines from France, wood for dyeing, with silks, spices, drugs, and other eastern products imported by the Venetians and Genoese. The principal article of export was wool, which has always formed the staple product of the kingdom; tin, lead, salt, salmon, cheese, &c., and, in plentiful years, corn, were also exported.

However singular it may now appear, the fact is certain, that previously to the conquest, and for more than a century thereafter, slaves formed a considerable article of export from England. When an estate was conveyed from one proprietor to another, all the villains or slaves, annexed to it, were conveyed at the same time, and by the same deed. When any person had more children than he could maintain, or more domestic slaves than he chose to keep, he sold them to a merchant, who disposed of them at home or abroad, as he found most profitable. In a Great Council held at St. Peter's, Westminster, in 1102, a strong law was made against this practice:—'Let no one,' it is said, 'for the future presume to carry on that wicked traffic by which men in England have hitherto been sold like brute animals.' But this law was insufficient to repress the abuse. Ireland seems, in those days, to have been a considerable market for the sale of slaves: and the Irish, in a national synod held at Armagh, in 1171, agreed to emancipate all the English slaves in the kingdom. This measure was not, however, adopted from any sense of the impropriety of retaining fellow-men in

a state of bondage, but in order to take away all pretext for the threatened invasion of Henry II.—(See *Henry's Britain*, vol. vi., p. 268, and *Lyttleton's Henry II.*, vol. iii., p. 70, and the authorities there referred to.)

It has been commonly supposed that the woollen manufacture was introduced into England by Edward III. But, though the measures of that monarch tended, as has been shown in the previous chapter, materially to its improvement, it certainly existed amongst us from the time of the Romans. There are notices in the statute book of 'broad cloths, two yards, within the lists,' 107 years previously to the introduction of the Flemish weavers in the reign of Edward III. At this period, however, and for long after, Flanders was the great seat of the woollen manufacture; and the wool of England was principally carried to that country, whence were brought in return, not only woollen cloths, but a large proportion of the foreign products required for our consumption.

The policy with respect to the exportation of wool, in the early ages of our history, was fluctuating and various. Generally speaking, it might be freely exported; but this liberty was sometimes entirely suspended, though, for the most part, the prohibition was only to the extent that no wool should be exported except by licence. This was a device fallen upon for the sake of revenue; and, as may easily be conceived, was often resorted to.

Customs seem to have existed in England before the conquest; but the king's claim to them was first established by the statute 3 Edward I. These duties were, at first, principally laid on wool, wool-felts (sheep-skins), and leather when exported. There were also extraordinary duties paid by aliens, which were denominated *parva costuma*, to distinguish them from the former or *magna costuma*. The duties of tonnage and poundage, of which mention is so frequently made in English history, were custom duties; the first being paid on wine by the ton, and the latter being an *ad valorem* duty of so much a pound on all other merchandise. When these duties were granted to the crown they were denominated *subsidies*; and the duty of poundage having continued for a lengthened period, at the rate of 1s. a pound, or five per cent., a subsidy came, in the language of the customs,

to denote an *ad valorem* duty of five per cent. A *new subsidy* was an addition of five per cent. to the previous duties.—(*Blackstone's Com.*, Book I. cap. 8.)

For several centuries after the conquest, but particularly after the marriage of Henry II. with Eleanor, heiress of some of the fairest provinces of the south of France, wines formed the principal article of importation into England. In King John's reign, a law was made regulating the prices of the different sorts of wines, and appointing twelve individuals in each city, town, and borough to see its provisions carried into effect. In 1299, 73 vessels arrived in London with cargoes of wine of more than 19 tuns each, exclusive of the ships belonging to the Cinque Ports, which might probably amount to as many more. Froissart states that, in 1372, above 200 sail arrived at Bordeaux from England for wine.

During the first three centuries after the conquest, the merchant vessels belonging to England were comparatively few in number, and were either employed in the coasting trade, or in voyages to the British possessions in France. They were of a small size, rarely exceeding seventy or eighty tons. At this period, the sovereign was master of very few ships of war. Until the sixteenth century, the navy consisted of a sort of marine militia, every sea-port being obliged to furnish its quota of ships and sailors according to its trade and resources. In the fleet under the orders of Edward III. at the siege of Calais, in 1347, there were 738 English ships, carrying 14,956 men, being at the rate of about twenty men to each ship. The pay of the seamen was fourpence a day, or about twelve-pence of our money.

London, Bristol, Norwich, York, Lincoln, Southampton, &c., were, in the fourteenth century, the principal commercial and manufacturing cities in England. But, from their advantageous situation for carrying on an intercourse with the Netherlands and France, Yarmouth and the Cinque Ports seem to have possessed the greatest quantity of shipping. The former sent 43 ships and 1905 men to the siege of Calais, while London only sent 25 ships and 662 men. It is pretty certain, however, that the shipping of Yarmouth, if it equalled that of the metropolis, which is doubtful, did not really exceed it; and it is probable that London had pur-

chased an exemption from the obligation to send ships, by a pecuniary contribution, or in some other way which it is now impossible to discover. (*Anderson*, Anno 1347.)

The peculiar privileges enjoyed by the citizens of the Cinque Ports, and the turbulence of the times, tempted them on several occasions to engage in piratical expeditions, in which they not unfrequently attacked ships belonging to other English ports. They carried this

species of outrage to a very great height in 1264.

In a tract published in 1623, (*Circle of Commerce*, by *E. Misselden*, p. 119), there is a statement, said to be taken from an ancient record in the Exchequer, of the amount and value of the imports and exports in 1354. An abstract of it, given by *Anderson*, has been often referred to; but the genuine account is as follows:—

EXPORTS.

One and thirty thousand, six hundred, fifty-one sacks and a half of wool, at six pounds value each sack, amount to . . .	£	s. d.
	189,909	0 0
Three thousand, thirty-six hundred, sixty-five felts, at 40s. value, each hundred at six score, amount to . . .	6,073	1 8
Whereof the Custom amounts to . . .	81,624	1 1
Fourteen last, seventeen dicker, and five hides of leather, after six pounds value the last. . .	89	5 0
Whereof the Custom amounts to . . .	6	17 6
Four thousand, seven hundred, seventy-four cloths and a half, after 40s. value the cloth, is . . .	9,549	0 0
Eight thousand, sixty-one pieces and a half of worsted, after 16s. 8d. value the piece, is . . .	6,717	18 4
Whereof the Custom amounts to . . .	215	13 7
Summa of the out-carried Commodities, in Value and Custom . . .	294,184	17 2

IMPORTS.

One thousand, eight hundred, thirty-two cloths, after six pounds value the cloth . . .	£	s. d.
	10,992	0 0
Whereof the Custom amounts to . . .	91	12 0
Three hundred, ninety-seven quintals and three-quarters of wax, after the value of 40s. the hundred or quintal . . .	795	10 0
Whereof the Custom is . . .	19	17 0
One thousand, eight hundred, twenty-nine tons and a half of wine, after 40s. value per ton . . .	3,659	0 0
Whereof the Custom is . . .	182	0 0
Linen cloth, mercery, and grocery wares, and all other manner of merchandise . . .	22,943	6 10
Whereof the Custom is . . .	285	18 3
Summa of the in-brought Commodities in Value and Custom, is . . .	38,970	13 8
Summa of the surplusage of the out-carried, above the in-brought Commodities, amounteth to . . .	*255,214	13 8

These sums are stated in money of the time, and may, therefore, be about trebled to get their value in money of the present day.

Though treated as authentic by Sir William Temple and others, this account is entitled to very little credit. It is not conceivable that the exports should have amounted to between *seven and eight times the value of the imports!* The account is obviously, indeed, intended only to exhibit the exportation and importation of such commodities as

paid duties; and it omits all mention of tin, lead, cheese, and other articles of native produce exported from England. Every one is, however, aware that during the middle ages, and down, indeed, to the reign of James I., custom-house regulations were but little attended to: and the clandestine trade in commodities on which duties were charged, rarely

* The totals do not exactly agree with the *Hems*; and there are no means of ascertaining where the error lies,

fell short, and frequently much exceeded, that which was legitimately carried on in them.

Owing to the proximity of France and the Low Countries to England, their vessels were doubtless the first that frequented the ports of Britain. The Flemings, however, were more distinguished as a manufacturing than as a maritime people; and the shipping of France was, at this remote period, as it still continues to be, very inferior to that of England. The Hanse Towns in the north, and the Italian republics in the south, engrossed, for several centuries, the principal part of the carrying trade of Europe; and it was in their ships that the greater part of the foreign commodities required for our consumption were imported, and that the most part even of our native produce was exported. The foundations of the Hanseatic League were laid by treaties between Hamburg, Lubeck, and Bremen in the early part of the thirteenth century. The objects of the association were of the most beneficial kind. It was intended to promote commerce and navigation, and to secure good order and free government, by suppressing piracy at sea and predatory attacks on travellers by land, and by protecting the cities belonging to the League from the tyrannical interference and oppressive exactions of the surrounding nobles and princes. The advantages resulting from the union were so very great, that it was speedily joined by every considerable city in the north of Europe; and became so very powerful that its alliance was courted and its enmity dreaded by the greatest monarchs. Bruges, in the Netherlands, was the entrepôt to which the Venetians, Genoese, and other Italians, brought the silks, velvets, spices, drugs, fruits, and other products of the south, and exchanged them for the ruder and more bulky, but not less useful products of the north, as iron, tin, fish, flax, pitch, &c. The Hanseatic merchants carried the Italian commodities to the Baltic, and up the great rivers into the interior of Germany. A taste for improved accommodations was thus diffused amongst those whose barbarism had ever remained impervious to the Roman power, and a powerful stimulus every where given to industry.

The Netherlands probably owed their selection as the grand emporium of the

southern and northern divisions of Europe, as much to the liberality of their government, and the freedom of their institutions, as to their central situation. The good order established amongst them at a period when the rest of Europe was a prey to feudal anarchy seems to have been the real cause of the early superiority of the Flemings in the arts of civilized life. A circumstance occurred in the reign of Edward II., which sets the liberal policy of the Flemish sovereigns, and their enlarged notions as to trade, in the most striking point of view. Edward, in a letter addressed to Robert Earl of Flanders, states that he had learned that an active intercourse was carried on between the Scotch and the Flemings; and as the Scotch had taken part with Robert Bruce, who was in rebellion against him, and excommunicated by the Pope, he begged that the Earl would put a stop to this intercourse, and exclude the Scotch from his dominions. The Earl returned an answer full of expressions of respect for Edward, adding, however,—‘We must not conceal it from your Majesty, that our country of Flanders is common to all the world, where every person finds a free admission. Nor can we take away this privilege from persons concerned in commerce, without bringing ruin and destruction upon our country. If the Scotch go to our ports, and our subjects go to theirs, it is neither the intention of ourselves nor our subjects to encourage them in their error, but only to carry on our traffic without taking any part with them.’—(*Rymer's Fœdera*, vol. iii., p. 771.)

A factory belonging to the Hanseatic merchants was early established in London. It was situated in Thames Street, on a spot of ground called the *Steel Yard*, which became the common appellation for the Hanseatic or German merchants in England. The members of this factory acquired very considerable privileges*. They were permitted to govern themselves by their own laws and regulations; the custody of one of the city gates (Bishopsgate) was committed to their care; they were exempted from contributing to subsidies, tenths, and fifteenths, and were not subjected to the additional duties imposed from time to time on goods imported

* These were confirmed to them by charter of Henry III. in 1269; but it is pretty certain that they had been conceded long before.

and exported; paying only the ancient customs agreed upon at the time of their establishment, which were very small. These privileges could not fail to excite the ill-will and animosity of the English. The Hanse merchants were every now and then accused of acting with bad faith; of introducing commodities as their own which were really the produce of others, that they might evade the duties with which they ought to have been charged; of capriciously extending the list of towns belonging to the association; and of obstructing the commerce of the English in the Baltic. Efforts were continually making to bring these disputes to a termination; but as they grew out of the privileges granted to and claimed by the Hanse merchants, this was found to be impossible, so long as these were preserved. The Hanse merchants contrived to engross the principal part of the foreign trade of England till the reign of Henry VII.; and they were not entirely stripped of their peculiar privileges till 1597.

Next to the Germans and Flemings the Italians were the most numerous class of foreigners in England, in the interval between the beginning of the thirteenth and the close of the fifteenth centuries. They were commonly known by the name of Lombards; and were principally engaged in pecuniary transactions, being at the time the bankers and money-brokers of Europe. They were also the great importers of spices, drugs, silks, and other eastern products. But, notwithstanding the advantages that must have resulted from their residence amongst us, they were at all times exceedingly unpopular. To such an excess was the prejudice against them carried, that in 1283 the Commons granted the fiftieth part of their moveable property to Edward I. on condition of his expelling the Italians from the kingdom. They were, however, soon after recalled; although, notwithstanding the protection of the king, they were exposed to many vexatious annoyances.

In 1316, Edward II. endeavoured to dissuade the Genoese, as he had done the Earl of Flanders, from maintaining any intercourse with the Scotch. On this occasion he reminded them that a very ancient and friendly intercourse had subsisted between their states and his ancestors, kings of England, and their subjects. (*Anderson, Anno 1316.*) The trade carried on with the Venetians

seems, however, to have been more considerable than that with the Genoese. In 1323, a quarrel happened between the crews of five Venetian ships lying at Southampton, and the townspeople, in which several lives were lost. The king fearing that this might deter the Venetians from continuing their trade to England, granted a free pardon to all concerned in the affair, promising, at the same time, the most perfect security and friendly treatment to all Venetian merchants and mariners who should come to England. In 1325, a treaty, which will be afterwards noticed, was concluded with the Venetians. The trade with Italy, at this early period, and for long after, was carried on exclusively in Italian ships*. It was not, in fact, till the reign of Richard III., that the English merchants appear to have resorted in any considerable numbers, or to have obtained any solid footing in Italy. This is evident from the commission given by that prince, in 1485, to Laurentio Strozzi to be English consul at Pisa:—'Whereas certain merchants and others from England intend to frequent foreign parts, and chiefly Italy, with their ships and merchandise, and we being willing to consult their peace and advantage as much as possible, and observing, from the practice of other nations, the necessity of their having a peculiar magistrate among them for the determining of all disputes, &c.' Strozzi was allowed a commission of one-fourth per cent. on all goods belonging to Englishmen imported into or exported from Pisa.

The necessities of the monarchs, and the difficulty, already alluded to, of enforcing payment of duties on imports and exports in the middle ages, seem to have given rise to the regulations as to the *Staple*, so famous in the commercial history of this period. The merchants of the Staple consisted of a company formed about the beginning of the fourteenth century. It was established to serve a double purpose; viz., first, to purchase and collect all that could be spared for exportation, of wool, wool-felts, leather, lead, and tin, which were denominated the staple products of the kingdom; to convey these to the staple towns, or to the towns whence only they could be exported, so that the col-

* *Anderson, Anno 1323; Henry's Britain, vol. viii., p. 322.*

lection of the customs might be facilitated, and that foreign merchants might know where to find stocks of the commodities referred to: and second, to export these commodities to foreign countries, and to bring back returns in goods, coin, or bullion. Natives and foreigners were indiscriminately employed in the purchase and collection of staple commodities in the kingdom; but, by a regulation of which it is difficult to discover the motive, no native of England, Ireland, or Wales, was permitted to engage, either directly or indirectly, in the exportation of any staple commodity. The staple towns for England were Newcastle, York, Lincoln, Norwich, Westminster, Canterbury, Chichester, Winchester, Exeter, Bristol, and Caermarthen; those for Ireland were Dublin, Waterford, Cork, and Drogheda.

Staple commodities could only be exported to certain foreign towns, that consequently received the name of foreign staples. The staple for the Low Countries was, for a lengthened period, established at Bruges; but after the conquest of Calais by Edward III., it was transferred to the latter.

Merchants of the staple were exempted from the jurisdiction of the ordinary magistrates, being subjected only to the authority of a mayor and constables of the staple, chosen annually in each of these towns, who were to judge in all disputes by the merchant law, and not by the common law. A certain number of *correctors* were chosen in each staple town, whose office it was to register all bargains, for which they received a small fee from the parties. There were also six auditors—two Germans, two Lombards, and two Englishmen—in each staple town, who were to determine all disputes referred to them, in the presence of the mayor and constables. Many privileges and immunities were conferred on this famous company, which proved a sort of subordinate commonwealth; and it was made felony to attempt to deprive it of any of its privileges.—(See Statutes of 27th Edward III. caps. 6, 8, 21, 22, 24, and 25.)

It is needless to dwell on the obvious inexpediency of such regulations. But, owing probably to the facility with which most of them were evaded, they do not seem to have been so injurious as we might now be disposed to conclude. In 1458 the merchants of the staple paid 68,000*l.* (money of the times)

duty on the commodities they exported; a fact which shows that their trade was very considerable.

The measures of Edward III. for the improvement of the woollen manufacture, and the privileges he conferred on towns, contributed to raise up a class of free labourers. But though there were differences in their condition, there is abundant evidence to prove that at this period the mass of the people residing in the country were in the most miserable state of servitude. The great pestilence that raged in England in 1349, is supposed to have cut off a half, or more, of the inhabitants. The services of those that survived having in consequence become more valuable, they demanded and received higher wages. This rise was, however, regarded as a grievous hardship: and the king, with the advice of 'his prelates, nobles, and learned men,' issued an edict, by which all labourers were, under severe penalties, ordered to work at their old occupation for the same wages as they received before the pestilence! But 'the servants having no regard to the said ordinance, but to their ease and singular covetize,' refused to serve unless for higher wages than it allowed. In consequence of this resistance, the famous statute of the 21st Edward III. c. 1, commonly called the statute of labourers, was passed. It enacts that every able-bodied person under sixty years of age, not having sufficient to live on, being required, shall be bound to serve him that doth require him, or else shall be committed to gaol till he finds surety to serve. If a servant or workman depart from service before the time agreed on, he shall be imprisoned; and if any artificer take more wages than were wont to be paid, he shall be committed to gaol. But the increase of wages having originated in natural causes, could not be checked by such enactments. Their inefficacy did not, however, lead to the adoption of a policy more consistent with justice or common sense. On the contrary, fresh efforts were made to give effect to the statute of labourers; and to prevent its being defeated by the peasantry taking refuge in towns, or emigrating to a distant part of the country, it was enacted by the 34th Edward III., that if any labourer or servant flee to any town, the chief officer shall deliver him up; and if they depart from another country, they shall be burned in the forehead with the letter *F*!

The injustice done to the labourers by these oppressive statutes was the more glaring, as Edward, to obtain funds to prosecute his schemes of conquest in France, had had recourse to the disgraceful expedient of enfeebling the standard of the coin. Not only, therefore, did the regulations as to wages, so far at least as they were effectual, deprive the common people of that increased payment to which they were entitled from the diminution of their numbers, but they also hindered them from being compensated for the fraud practised on the coin. It was attempted, indeed, to obviate the effects of the diminution of the latter by fixing the prices of most articles; but this was only to bolster up one absurdity by another, and it is not possible that such limitations could have any material influence.

Notwithstanding the degradation and ignorance of the mass of the people, the oppressions to which they were subjected made them at length rise *en masse* against their oppressors. So long indeed as Edward III. lived, the public tranquillity was preserved, and the villains and labourers submitted to the injustice of which they were the victims. But the increase of towns and manufactures during the lengthened reign of this monarch having materially increased the number of free labourers, a new spirit began to actuate the peasantry, who, contrasting their servile condition with the condition of the citizens, became sensible of their inferiority, and more alive to the oppressions they suffered. An attempt to enforce the provisions of the statute of labourers, in the reign of Richard II., was the ground-work of the famous rebellion headed by Wat Tyler. The demands made by the peasantry show the grievances under which they laboured. They required the abolition of slavery, freedom of commerce in market towns without tolls or imposts, and a fixed rent on lands, instead of the services due by villanage. The rebellion, after having attained to a formidable magnitude, was suppressed with much bloodshed. But though re-established, the servitude of the peasantry was relaxed, and the class of free labourers became gradually more numerous.

On the whole, the domestic policy of Edward III. was favourable to the progress of commerce and the arts, and to the advancement of society. The efficient protection he afforded to alien merchants and manufacturers does honour

to his sagacity, and was undoubtedly productive of the best effects. He endeavoured not only to render his dominions the resort of foreigners, but to establish a perfect freedom of trade. In a statute passed in 1350, confirming one that had previously been passed to the same effect, it is enacted that 'all persons, as well foreigners as natives, may buy and sell by wholesale and retail, when, where, and how they please, paying the several duties and customs, *notwithstanding any franchises, grants, or usages to the contrary; seeing such usages and franchises are to the common prejudice of the king and people.*' The judicious observations of Mr. Anderson on this statute deserve to be quoted:—'Had this excellently well-judged act been suffered to remain in force, and to operate to this hour, the nation would, very probably, have increased much faster in people and wealth. But the monopolizing grants of subsequent times from the crown, which, by long use, came to be looked on as *legal*, though not confirmed by act of parliament; and the city of London and other cities and towns having also had weight enough to obtain certain laws for curtailing and frustrating the privileges allowed to *all*, by this act, and for confining the said privileges solely to the freemen of their corporations, gradually brought things to the monopolizing state in which we see them at present in all our corporate towns. Although every person of discernment, in this age, sees and laments an evil not so easily to be remedied, by reason of so many estates bequeathed to and settled in possession of the said monopolizing societies.'—(*Historical and Chronological Deduction, &c.* vol. i. p. 181.)

Edward III., though more powerful and vigilant than any of his predecessors, was unable to repress the disorders that grew out of the state of society in which he lived. The barons, by their confederacies with each other, braved the authority of the crown; while, by protecting their dependents in every excess, the laws were rendered inoperative. Innumerable complaints were made by the Commons of the murders, rapes, robberies, and other outrages, by which every part of the country was disgraced and afflicted. But they admitted of no effectual remedy; the nuisance continued unabated, till the increasing power of the crown and the towns subverted

the feudal system, and secured the ascendancy of the court.

The most objectionable, perhaps, of all the measures of Edward III. was his enfeebling the standard of the currency, which at that time consisted wholly of silver. The necessities in which he was involved, by his wars with France, drove him to this ruinous expedient. It must, however, be admitted that the subject was then but little understood; and that those who degraded the currency in the middle ages, were innocent, compared with those who have perpetrated similar frauds after the importance of preserving the standard inviolate had been fully demonstrated.

Besides the merchants of the Steel Yard and of the Staple, a famous mercantile association was early founded in London, at first under the title of the Brotherhood of St. Thomas Becket, and afterwards under that of the *Merchant Adventurers*. It consisted entirely of Englishmen; and originally any one who desired it might become a member, and participate in all its privileges, on payment of a moderate fine. It appears to have been the intention of government, that the foreign trade of the country should be divided between this society and the merchants of the Steel Yard. A violent jealousy consequently grew up between these associations, and their conflicting rights and claims led to perpetual disputes, that continued till the dissolution of the Hanseatic factory.

But whatever benefits might otherwise have been derived from the vigorous and generally equitable government of Edward III., were countervailed by the obstinacy with which this able prince and his immediate successors urged their pretensions to the throne of France. The nation engaged with the greatest ardour in the support of this unfounded claim; and continued, for a lengthened period, to waste its energies and exhaust its resources in efforts to conquer that kingdom.

The mutual and cruel ravages of the French and English, during this lengthened and sanguinary struggle, are said to have been such, that in extensive districts of Normandy and other French provinces, neither man nor woman was to be seen, except in the fortified towns. The description given by Speed, after Polydore Virgil, of the barbarous warfare then carried on in France, is not, in any respect, overcharged:—‘While the English

and French contend for dominion, sovereignty, and life itself, men's goods in France were violently taken by the licence of warre, churches spoiled, men every where murdered or wounded, others put to death or tortured; matrons ravished, maydes forcibly drawn out of their parents armes to be deflowered, townes daily taken, daily spoiled, daily defaced, the richest of the inhabitants carried whether the conquerors thinke good; houses and villages round about set on fire: no kind of cruelty is left unpractised upon the miserable French. Neither was England herself void of those mischiefs, who every day heard the newes of her valiant children's funerals, slaine in perpetual skirmishes and bickerings, her general wealth continually ebd, and wained, so that the evils seemed almost equall, and the whole westerne world echoed the groans and sighs of either nation's quarrels, being 'the common argument of speech and compassion throughout Christendom.'—(p. 668.)

The statement in this striking paragraph, as to the injury sustained by England in this sanguinary contest, is corroborated by other evidence. The draughts of men and money required for the reinforcement and maintenance of the armies in France, and the licence given to all sorts of disorders at home, by the absence of the sovereign, could not fail of having a most mischievous influence. A statute of the 9th of Henry V. recites, ‘That whereas at the making of the act of the 14th of Edward III. (1340,) there were sufficient of proper men in each county to execute every office; but that, *owing to pestilence and wars*, there are not now (1421) a sufficiency of responsible persons to act as sheriffs, coroners, and escheators.’ The laurels, as Mr. Barrington has justly observed, which were gained by Henry V., are well known; but it is not so well known that he has left us, in the above statute, irrefragable proof that they were not obtained but at the dearest price,—the impoverishment and depopulation of the country.

The success of the French arms during the minority of Henry VI. at length put a period to this fatal phrenzy. Unfortunately, however, the tranquillity enjoyed by the English subsequently to their expulsion from France was but of short duration. England soon after became the theatre of civil war. The

parties attached to the interests of the rival houses of York and Lancaster were pretty equally balanced, and for nearly forty years, with a few short intervals only excepted, one half the nation may be said to have turned its arms against the other. The insecurity of property, and the rapine and bloodshed inseparable from a civil war, which raged with more than ordinary fury, proved exceedingly unfavourable to the growth of industry and commerce. So feeble was the naval power of England in the reign of Edward IV., that that monarch was glad, after being defeated in several engagements, to conclude a treaty, in 1474, on very disadvantageous terms, with the Hanse Towns*.

* This treaty being the most important of any entered into between England and the Hanse Towns, we subjoin an abstract of its principal conditions.

1. All past injuries and complaints shall be buried in oblivion, and all injuries and violences shall be absolutely forborne for the future.

2. For the greater safety of the merchants and people of the Hanse Society, King Edward agrees to grant his charter or obligation in the strongest terms, and shall also get it confirmed by act of parliament, that no kind of damage shall be done to their persons or goods, *by reason of any sentence or determination of the said king and his council*, for reprisals, &c. on account of matters done prior to this treaty.

3. The merchants of England may freely resort and trade to the countries of the Hanse League, as the Hanseatic merchants may to England, with their ships and merchandise, freely to sell the same and purchase others there, without paying in either country any more than the ancient duties and customs, on any pretence whatever.

4. All the privileges and immunities of the Hanseatics in England are hereby renewed, and shall also be confirmed by act of parliament; and the English shall enjoy all their immunities at the Hanse Towns as formerly.

5. The Hanseatic merchants in England shall not henceforth be subject to the lord high admiral's court of jurisdiction; but in controversies about maritime affairs, &c. shall have two judges allotted to them by the king for determining the same.

6. That the steel-yard in London, in its utmost extent, shall be confirmed to the said German merchants, as also the steel-yard at Boston; and that a like house be assigned for their use at Lynn, near the water side.

7. That £10,000 sterling, liquidated to be due by the king to the said German Hanse merchants, shall be paid or deducted out of the customs and duties on their merchandise, till the whole sum be discharged.

8. If any city of the Hanseatics shall hereafter separate itself from the general union, the king of England shall cause all the privileges of that separating city to cease in England until they be reunited to the league.

9. The said German merchants of the steel-yard shall have the possessing and keeping of the gate of the city of London called Bishopsgate, as by ancient agreement between that city and them.

10. The king shall provide that the woollen cloth of England be reformed, both as to the quality of the wool, and the length and breadth of the cloth.

11. The said steel-yard merchants shall be at liberty to sell their Rhenish by retail as well as wholesale, according to ancient custom.

It is difficult to form any very accurate conclusions as to the state of mercantile shipping from the reign of Edward III. to that of Henry VII.; but the increase, if there was any, seems to have been very inconsiderable. During the whole of this period, most foreign commodities consumed in England, with the exception of wine, were imported in foreign bottoms. In 1381, an act was passed—in consequence, as appears from the preamble, of the complaints of the Commons of the decay of shipping—prohibiting all English merchants from freighting foreign ships, under forfeiture of the goods embarked in them. But it was very soon found that this act could not be enforced without great injury to trade; and in the following year a statute was passed which, in effect, suspended the former, by authorizing the employment of foreign vessels when English ones could not be procured.

A famous merchant of Bristol, of the name of Canynge, who was five times mayor of that city, is said to have been the greatest English ship-owner of the reign of Edward IV. The prevalent opinion seems to be that he had in his employment ships of 900, 500, and 400 tons burden*. The only authority for this statement is an inscription on Canynge's tomb, at Bristol, where it is stated, that '*having forfeited the king's peace*, he was condemned to pay 3000 marks, in lieu of which sum King Edward IV. took of him 2470 tons of shipping, among which was one ship of 900 tons burden, another of 500 tons, and one of 400 tons, the rest being smaller.' (Anderson, anno 1449.) Mr. Anderson conjectures, apparently with much probability, that the '*forfeiture of the king's peace*,' alluded to in this inscription, refers to some act of piracy, or to some abuse of letters of marque, committed by Canynge. At all events, it is sufficiently certain that no merchant ships of the burden of 900, or even 500 tons, were built in England for more than a century after this period; so that if the statement as to the tonnage may be depended on, the fair presumption is, that the vessels had been taken from the Venetians or Genoese. The circumstance of the forfeiture of the ships being recorded on Canynge's tomb does not, as Mr. Macpherson seems

* Hallam's Middle Ages, vol. iii. p. 386, octavo edition.

to suppose, prove that they were not acquired by piracy. This offence was estimated very differently in those days and at present; and there might have been colourable grounds for the capture.

The truth is, that the navigation of England continued throughout this whole period very limited. 'While,' says Dr. Robertson, 'the trading vessels of Italy, and Spain, and Portugal, as well as those of the Hanse Towns, visited the most remote parts of Europe, and carried on an active intercourse with its various nations, the English did little more than creep along their own coasts in small barks, which conveyed the productions of one county to another. The cross of St. George was seldom displayed beyond the precincts of the narrow seas. Hardly any English ship traded with Spain and Portugal before the beginning of the fifteenth century; and half a century more elapsed before the English mariners became so adventurous as to enter the Mediterranean.'—(*America*, book 9th.)

A rhyming tract, printed by Hakluyt, (vol. i. p. 187.) entitled the '*Process of English Policy*,' appears to have been written about the middle of the fifteenth century. Its object is to inculcate the policy of *keeping the sea*; that is, of having the absolute command of the Channel, and particularly of the straits of Dover. The writer then enumerates the different products of such European nations, with the exception of France, as had any over-sea traffic. His statements on this head, which are very curious, have been condensed by Mr. Macpherson nearly as follows:—

The exports of Spain consisted of figs, raisins, bastard wine, dates, liquorice, Seville oil, grain, Castile soap, wax, iron, wool, wadmole, skins of goats and kids, saffron and quicksilver, which was all shipped for Bruges, the great Flemish emporium; of these wool was the chief article. In return the Spaniards received fine cloth of Ypres, which is noted as superior to that of England, cloth of Curtrike (Courtray), fustian and linen*. The Flemings could not make good cloth of the Spanish wool by itself, and were obliged to mix it

with the English, which (according to the author) was the chief support of their manufacture, as without it they could not possibly carry it on, or support their numerous population, their country not producing food sufficient for their support for one month in the year. (This is doubtless a great exaggeration.)

With Portugal the English maintained a considerable intercourse, and were in the habit of making voyages to it. The commodities were wine, osay, wax, grain, figs, raisins, honey, cordovan, dates, salt, hides, &c.

Bretagne exported salt, wine, crest cloth, and canvass. The Bretons, especially those of St. Malo, are described as much addicted to piracy, and as caring very little for their duke. The writer states that they often plundered the east coasts of England, and levied contributions, or ransoms, from the towns.

The exports of Scotland consisted of wool, wool-felts, and hides. The Scotch wool, mixed with English, was made into cloth at Popering and Bell, manufacturing towns in Flanders. The Scotch vessels carried home from Flanders mercery, haberdashery ware, and 'cart wheels and barrows.'

The exports of Prussia were beer, bacon, osmunds, copper, steel, bow staves, wax, peltry, pitch, tar, boards, flax, thread of Cologne, fustian, canvass, cards, buckram, and also silver purchased from Bohemia and Hungary. The returns from Flanders were woollen cloths of all colours. And many of the Prussians are described as sailing to the Bay of Biscay for salt.

The Genoese in great carracks imported into England cloth of gold, silk, black pepper, wood in great plenty, wool, oil, wood ashes, cotton, roche alum, and gold for paying their balances. They took in return wool and woollen cloths of all colours, which they sometimes carried to Bruges, the chief staple of their trade.

The Venetians and Florentines imported into England, in large galleys, all kinds of spiceries and groceries, sweet wines, sugar, apes and other foreign animals, and many trifling articles of luxury. In return they received wool, cloth, and tin. The balance was supposed to be in their favour; for the author is much displeased that

* It is necessary to remember that Spain, at this time, contained several kingdoms often at war among themselves. The trade here described is apparently that of Castile. Catalonia possessed flourishing manufactures of wool, cotton, linen, silk, &c.

'Thei bere the gold out of this lond
And sowketh the thrifte out of our hond
As the waspe sowketh hony of the be.'

The Venetians were also dealers in exchange and lent money at interest. They also used to travel to Cotswold and other parts of England to buy up wool, cloth, tin, &c. The author regrets that they were not compelled to unload in forty days, and to load in other forty, nor obliged to act under a host or landlord broker as formerly, and as the English at Venice were obliged to do.

In the marts or fairs of Brabant, the English (and probably other foreigners also) were obliged to sell their cloths, &c., in fourteen days, and make the purchases, consisting chiefly of mercery, haberdashery, and groceries, in as many more, on pain of forfeiture. Those fairs were frequented by the English, French, Dutch (or Germans), Lombards, Genoese, Catalonians, Spaniards, Scotch and Irish. The author affirms that the English bought more in the marts of Brabant, Flanders, and Zealand, than *all* other nations.

Brabant and Zealand exported madder, wood, garlic, onions and salt fish. The Hollanders bought the English wool and wool-felts at Calais. In the marts of Brabant were also sold the merchandise of Hainault, France, Burgundy, Cologne, and Cambray, which were brought in carts over land.

The exports of Ireland were hides, wool, salmon, hake, herrings, linen falding, and the skins of martens, harts, otters, squirrels, hares, rabbits, sheep, lambs, foxes and kids. Some gold ore had lately been brought from Ireland to London. The abundant fertility and excellent harbours of Ireland are noted by the author, who laments that the island was not made more profitable to England by a complete conquest.

The trade to Iceland for stock fish, hitherto, according to the author, almost confined to Scarborough, had, for about twelve years past, been taken up in Bristol and other ports. It is said to have been over done, and that the vessels engaged in it could not obtain full freights.

Some faint traces of the negotiation of bills of exchange have been discovered, or supposed to be discovered, in antiquity. We believe, however, that we are really indebted to the Jews and Italians of the middle ages for the discovery of this admirable expedient for adjusting the claims of individuals resident at a distance from each other. According to Mr. Macpherson (*Annals*

of Commerce, vol. i. p. 405), the first mention of bills of exchange, in connexion with the history of England, occurs in 1255. The Pope having quarrelled with Manfred, King of Sicily, agreed, on Henry III. engaging to defray the expense, to depose Manfred and raise his second son Edmund to the Sicilian throne. The enterprise misgave; but the merchants of Sienna and Florence, who advanced the money to carry it into effect, were repaid by bills of exchange, drawn on the *prelates* of England; who, though they protested they knew nothing at all about the transaction, were nevertheless compelled, under pain of excommunication, to pay the bills and interest.

Capmany (*Comercio Antiguo de Barcelona*, tomo i., p. 212) has given a copy of an ordinance of the magistracy of Barcelona, issued in 1394, enacting that bills should be accepted within twenty-four hours of their presentation; a sufficient proof that they were then in general use. Bills, however, were rarely either seen or negotiated in England previously to the middle of the fifteenth century.

The value of land during the civil wars seems to have been about *ten years'* purchase. This may be fairly inferred from proclamations issued in 1470 by Edward IV., and in 1483 by Richard III., offering in both instances a reward of 1000*l.* in money, or 100*l.* a year in land, to any one who should arrest the individuals named in the proclamations. This sufficiently evinces the insecurity of property in those barbarous times.—(*Rymer's Fœdera*, vol. xi., p. 654, &c.)

The fisheries seem to have been early the object of legislative arrangements. In the reign of Edward IV., various statutes were enacted, prescribing rules for the packing of salmon, herrings, eels, &c.; and there are several older statutes for the preservation of the fry of salmon, lampreys, &c.—(*Anderson*, Anno 1483.)

Even though the situation of the country in other respects had been favourable to foreign commerce, the state of society previously to the reign of Henry VII. was such as to hinder it from making any material progress. Except in a few large towns, there was no such thing as a middle class. The great mass of the people was held in thralldom by the nobility; and the laws enacted in the reign of Edward III. show the

obstacles opposed to their improvement and emancipation. Such persons were compelled to satisfy themselves with mere necessities. And the revenues of the great lords being exhausted in maintaining crowds of dependents, and in a rude sort of hospitality, the demand for foreign commodities was confined within very narrow limits. The clergy, indeed, and the monks belonging to the richer monasteries, introduced a more refined mode of living; at the same time that the villains on their estates were less oppressed than on those of the nobles. Most part, however, of the increase that really took place in the trade of the country between the death of Edward III. and the accession of Henry VII. is ascribable to the growth of the towns in the interim, which, though far from rapid, was not so inconsiderable as is sometimes stated. The charters of enfranchisement given to these communities, the privilege which they early acquired of electing their own magistrates and regulating their municipal government, and the police and good order they established, gave them great advantages, and rendered their inhabitants immeasurably superior, in point of wealth and civilization, to those of country districts. By an edict of William the Conqueror, such villeins as fled to a town and were not reclaimed by their masters within a year and a day, acquired their freedom: and even of those that fled to the towns and were reclaimed, few comparatively were given up. So early as the reign of Edward I. the influence of the towns began to be very sensibly felt; and it became still more decided after that of Richard II. In every country the towns have been the cradles of civilization, and of public liberty; but in England this has been most strikingly the case. Having been early admitted into parliament, their representatives speedily acquired a considerable influence, which continued to increase with the increasing numbers, intelligence, and wealth of their constituents. This circumstance, more than any thing else, prevented the establishment of arbitrary power in England. The destruction of the feudal privileges of the aristocracy by the house of Tudor was accomplished with comparatively little difficulty; but when the Stuarts attempted to act by the commons as the Tudors acted by the nobles, they found the wide difference between attacking oppressive privileges engrossed

by a class, and rights enjoyed by a whole people.

But notwithstanding the vast advantages that have resulted from the growth of towns and cities, they have not been altogether without alloy. The citizens engaged in particular trades were early joined into corporate bodies, which immediately began to discover that rapacious, short-sighted, monopolizing spirit by which corporations have always been distinguished. Instead of endeavouring to promote their interests by an hospitable reception of strangers from other parts of the country, and of foreigners, they exerted themselves to exclude both the one and the other from participating in the advantages they enjoyed.

The regulations as to apprentices originated in the efforts made by the corporate bodies to exclude competitors. They were intended to prevent the exercise of any trade in any town corporate, except by those who had served an apprenticeship of a certain specified duration. The by-laws of the different corporations to this effect were confirmed by the celebrated statute of the 5th of Elizabeth (1563), commonly called the statute of apprenticeship, which fixed the duration of such engagements at *seven* years, and extended the regulation to all the corporate towns in the empire. And what is most extraordinary, this statute, though interfering so directly with the freedom of industry, and intended to bolster up the most oppressive monopolies, preserved its place on the statute book till 1814.

But in the early part of our history, the landlords were disposed, even more than the corporate bodies, to increase the difficulties of apprenticeship. The advantages enjoyed by mechanics resident in towns over country labourers, were so very great, that the latter were anxious, under any conditions, to bind their children apprentices. To counteract this practice the great lords fell upon several devices; and in the reign of Henry IV. an act was passed prohibiting all persons from binding their sons and daughters by an apprenticeship, unless they possessed twenty shillings a year in land! The decay of husbandry was pleaded as a justification of this and similar enactments; but their real intention was to prevent the emancipation of the peasantry, the lords being unwilling to lose the services to which they were bound, or to resign the jurisdiction they were accustomed to

exercise over them. When, however, money payments began, after the accession of the House of Tudor, to be preferred to services, the landlords not only ceased to oppose, but encouraged the emigration of the peasantry to the towns; and their increasing influx, by exciting the fears of the corporate bodies, seems to have given birth to the statute of apprenticeship referred to above.

Down to the reign of Henry VII. the commerce of England, in common with that of most other countries, suffered severely from piratical depredations. Even those esteemed as good citizens, and engaged in trade as a pursuit, were so much under the influence of the predatory spirit of the times, that they did not hesitate to engage in marauding adventures. The mischief was aggravated by the practice, then very prevalent, of granting letters of marque to private individuals, authorizing them to make reprisals on the subjects of states with which the princes, by whom the letters were granted, were at peace! Such licences to carry on private wars necessarily led to every sort of abuse, and increased, in no ordinary degree, the dangers of navigation. The suppression of piracy was, indeed, the principal object contemplated by the founders of the Hanseatic League; but notwithstanding the efforts of that powerful association, the offence continued to be very prevalent till the end of the fifteenth century. At length, however, the establishment of good order, and the prevalence of sounder views of national interest, occasioned the suppression of piracy, and of the practices which had given countenance to it. Letters of marque were no longer granted except when states were at war; and pirates, being every where treated as robbers, were finally banished from the European seas.

Besides the dangers which mariners encountered in those barbarous ages from the attacks of pirates, they were exposed to the most cruel treatment in the event of their being wrecked. After the subversion of the Roman power it was customary in most countries to reduce the survivors to slavery, and to confiscate their property for the use of the king or of the lord of the manor! But such disgraceful proceedings could only be tolerated in the very darkest ages. In England it was ad-

judged, so early as the reign of Henry I., that if any person escaped alive out of a ship it should be no wreck. And after various modifications it was decided in the reign of Henry III., that if goods were cast on shore, having any marks by which they could be identified, they were to revert to the owners, if claimed any time within a year and a day. The statute 27 Edward III., cap. 13, enacted, that if a ship were lost and the goods came to land, they were to be delivered to the merchants, paying only a reasonable reward or salvage to those by whom they were saved or preserved. But these ancient statutes, owing to the disorders of the times, were but feebly enforced; and the disgraceful practices alluded to did not entirely disappear till a comparatively recent period.

In all countries, however barbarous, that have any shipping or foreign trade, we meet with some system of maritime law. The Romans borrowed their regulations as to naval affairs from the Rhodians; the justice and equity of whose code were celebrated by the best ancient writers, and are demonstrated by the fragments that are still extant. A code of maritime law, entitled the '*Consolato del Mare*,' founded principally on the basis of the Roman law, but interspersed with rules and regulations of a later origin, appears to have been issued at Barcelona somewhere about the end of the thirteenth or the beginning of the fourteenth century, and speedily obtained great authority among the nations bordering on the Mediterranean. The collection of sea laws, entitled the '*Roole des Jugemens d'Oleron*,' was the first body of maritime jurisprudence that appears to have acquired any influence in England, where it has long been held in the highest esteem. There is much diversity of opinion as to the origin of this code. The prevailing opinion in Great Britain has been that the '*Jugemens d'Oleron*' were compiled by direction of Queen Eleanor, the wife of Henry II., in her quality of Duchess of Guienne; and that they were afterwards enlarged and improved by her son, Richard I., at his return from the Holy Land; but this statement is now admitted to be destitute of any good foundation. The most probable theory seems to be, that they are a collection of the rules or practices followed at the principal French ports on the Atlantic, as Bordeaux, Rochelle, St. Malo, &c. They contain, indeed, rules, the observance of which is essential to

all maritime transactions, wherever they may be carried on; but the references in the code sufficiently prove that it is of French origin. The circumstance of our monarchs having large possessions in France, when the rules of Oleron were collected and reduced into a system, naturally facilitated their introduction into England, and made them be regarded with peculiar favour. 'I call them the laws of Oleron,' said Sir Leoline Jenkins, 'not but that they are peculiarly enough English, being long since incorporated into the customs and statutes of our Admiralties; but the equity of them is so great, and the use and reason of them so general, that they are known and received all the world over by that, rather than by any other name.' Molloy, however, has more correctly, perhaps, said of the laws of Oleron, that 'they never obtained any other or greater force than those of Rhodes formerly did; that is, they were esteemed for the reason and equity found in them, and were applied to the case emergent.'—(M'Culloch's *Com. Dict.* Art. **MARITIME LAW.**)

Previously to the struggle between the houses of York and Lancaster, acts had occasionally been passed restraining the importation of certain species of foreign produce, particularly of woollen manufactures. But these were, for the most part, soon after repealed; and it is probable, from the inefficiency of custom-house regulations at the time, had but very little influence. They seem principally to have been passed at the solicitation of the incorporations of London, Bristol, and other great towns; and from the way in which petitions for prohibitory enactments were treated by Edward I., Edward III., and others of our most able princes, it may be inferred that they were quite aware of the real motives of the petitioners. But during the civil wars, the princes on the throne and their competitors were particularly anxious to conciliate the support of the great towns; and there was no mode of accomplishing this so easy, and at the same time so effectual, as the exclusion of foreign products and artisans. Hence the reigns of Edward IV. and Richard III. form an important epoch in the history of the prohibitive system. The preamble to the great restraining act of 1643, (3rd Edward IV. cap. 4.) contains an epitome of the allegations usually put forth by the advocates of

prohibition:—'Whereas in the said parliament, by the artificers, men and women, inhabiting and resident in the city of London, and the cities, towns, boroughs, and villages within this realm and Wales, it hath been piteously shewed and complained, how that all they in general, and every of them, be greatly impoverished, and much injured and prejudiced of their worldly increase and daily living, by the great multitude of divers chaffres and wares, pertaining to their mysteries and occupations, being fully wrought and ready made to sale, as well by the hands of strangers, being the king's enemies as others, brought into this realm and Wales from beyond the sea, as well by merchant strangers as denizens, and other persons, whereof the greatest part is deceitful and nothing worth, in regard of any man's occupation or profit, by occasion whereof the said artificers cannot live by their mysteries and occupations as they used to do in times past; but divers of them, as well householders as hirelings, and other servants and apprentices in great numbers, be at this day unoccupied, and do hardly live in great idleness, poverty, and ruin, whereby many inconveniencies have grown before this time, and hereafter more be like to come, (which God defend) if due remedy be not in their behalf provided, &c.'

It seems not to have then occurred to any one that reciprocity is of the essence of commerce. Foreigners import nothing without getting an equivalent; so that when we consume large quantities of their goods, it admits of demonstration that they consume equally large quantities of ours. Admitting, therefore, that the allegations referred to above were true, yet it is plain that the idleness and poverty complained of could not be obviated by prohibiting importation. Such prohibitions might give additional employment to the producers of such articles as had previously been supplied by the foreigner; but it is certain it could not do this without depriving all those of employment who had been engaged in the production of the articles sent abroad in payment of the imports. A prohibition never fails to destroy as much, or more, on the one hand, as it builds up on the other. It is a contradiction and an absurdity to suppose that the prevention of importation should increase the field of employment. All that it can possibly do, is to divert labour into channels into which it would not

naturally flow, and in which it is, consequently, sure to be less productive than if it had been left to seek out investments for itself. But such arguments are reluctantly admitted, even in the nineteenth century, and could not, therefore, be supposed to have much influence in the fifteenth. The remedy then provided for the grievances complained of, was the prohibition of almost every wrought article, either of convenience or ornament, at that time known. This prohibition was renewed and extended by the act of 1484. (1st Richard III. cap. 12.)

The monopoly principles that were thus early engrafted into our commercial policy have continued ever since to maintain their ground. During the sixteenth century they were sometimes partially suspended, but they were never wholly repealed, and were always enforced whenever any circumstance occurred to give additional influence to the manufacturers and the incorporated bodies.

The justly celebrated William Caxton was a member of the Mercers' Company of London, and was employed by Edward IV. in the negotiation of a commercial treaty with Philip, Duke of Burgundy. While engaged in this mission, he acquired a knowledge of the then recently invented art of printing, which he introduced into England. It would be worse than useless to dwell on the importance of this invention. Knowledge ceased to be confined to a few individuals. Books being multiplied and cheapened in a degree that could not previously have been supposed possible, became accessible to all classes; nor can there be a doubt that the universal diffusion of every sort of information by means of the press, has contributed more than anything else to the wonderful improvements that have since been made in the arts and sciences.

2. *Progress of commerce and industry in England, from the accession of Henry VII. to the death of Elizabeth.*—The accession of Henry VII., in 1485, marks an important era in the history of English commerce. It terminated that civil war which had so long deluged the country with blood; while the vigorous and prudent, though severe administration of the king, and the good terms on which he endeavoured to keep with his neighbours, gave unusual facilities for the prosecution of commercial enterprises.

The love of money, the ruling passion of this monarch, led him to set a high value on commerce, which he endeavoured directly to promote. It may be doubted, however, whether the laws passed in his reign with this view, were not, speaking generally, rather injurious than otherwise. Attempts were made to fix the prices of several commodities and articles of provision; the taking of interest for money was forbidden, under very severe penalties; as were the profits of exchange, on pretence of their savouring of usury! The exportation of money, plate, and bullion, was prohibited; and aliens who had imported produce into the kingdom, were obliged to invest the produce of their sales in English commodities, lest the precious metals might be carried out.

Some of Henry's laws are, however, characterized by sounder views of public policy. Of this description is an act passed in 1494, providing for the uniformity of weights and measures. It directs that models of all standard weights and measures be delivered to the knights, citizens, and burgesses in parliament assembled; that the latter should deliver them to the mayor and bailiffs of the cities and towns which they represented; these functionaries being required once a year to compare the weights and measures in use in their respective districts with the models; to destroy those that did not correspond with them, and to impose fines on those by whom they were used. Unluckily, however, it was speedily found that the models sent to the country did not exactly correspond with the standards in the exchequer; and though the defect was remedied, it seems to have thrown so much discredit on the project, that the advantage resulting from it was comparatively unimportant.

The vexatious restraints on industry, imposed by the different corporate bodies, were in some respects modified by Henry VII. They were prohibited from making by-laws without the consent of three of the chief officers of state; but this judicious regulation seems to have speedily fallen into disuse. Corporations were also prohibited from imposing tolls at the gates of their towns. The cities of Gloucester and Worcester had proceeded so far in this way as to levy a tax on vessels or boats navigating the Severn, which was abolished by this act, (19th Hen. VII. cap. 18.)

Henry negotiated a great many com-

mercial treaties with foreign countries. Of these the most celebrated was the treaty entered into with the Archduke Philip, sovereign of the Netherlands, in 1496. Unlike the greater number of such agreements, it was founded on a fair principle of reciprocity; and contains several very judicious regulations for facilitating the intercourse between the two countries, and making it advantageous to both. It was denominated the *Intercursus Magnus*; and was exceedingly popular in England as well as in the Netherlands. As this treaty has been often referred to, and throws considerable light on the nature of commercial transactions at the time, we have given it below. The precautions taken to prevent piracy, and the stipulations as to shipwrecked vessels, are particularly worthy of attention.*

* 1. Mutual liberty allowed on both sides to trade to each other's dominions, without asking for licence or passport. To carry all manner of merchandise, whether wool, leather, victuals, arms, horses, jewels, or any other wares, either by land or water, from Calais, England, and Ireland, to the countries of Brabant, Flanders, Hainault, Holland, Zealand, and Mechlin, and from these provinces to Calais, England, and Ireland; and that both parties may freely resort to and unload at all the customary ports, and reload, and thence freely depart.

2. Merchants, mariners, &c. may on both sides carry weapons of defence in their ships, and bring them on shore to their lodgings, where they shall leave their swords, daggers, &c. till they shall go on board again.

3. The fishers on both sides may freely fish on the seas without any safe conduct asked; and when driven into each other's ports by tempest or other necessity, they shall be safe there, and have free liberty to depart, paying the customary dues.

4. Pirates and ships of the enemies of either party shall not be permitted to rob or otherwise injure the subjects of either party in their respective havens and countries; nor to land nor sell there the goods or ships taken from either party.

5. And to the end that captures of ships, persons, and goods may hereafter cease between both parties, it is agreed that security, to double the value of ship and goods, be given by shipmasters setting out on a voyage, that they shall not commit any piracy or robbery on the subjects of the other party.

6. The ships of either party driven into the ports of the other party by storm, enemies, &c., shall remain there safely, and may depart again freely; but they shall not open nor unload their merchandise without a visible necessity, and without the presence and the consent of the custom-house officer.

7. Merchants, mariners, &c. of both parties shall not import into the other party's country the goods of an enemy to that party.

8. If it shall happen that a ship of either of the contracting parties be wrecked on the shores of the other party, though there shall not be found therein either man, woman, cat, dog, or cock, yet the goods in the said ship shall be preserved, and laid up for a year and a day, by the proper officers of the place; within which time the proper owners may come and make out their claim, and receive their goods, paying the requisite expenses for recovering and keeping the same.

We have already noticed the establishment of the company of merchant adventurers, originally the fraternity of St. Thomas Becket. They were not a joint stock, but a regulated company, established in London. It would seem that they had early acquired, or usurped the right, of demanding a fine from the merchant adventurers belonging to other parts of England, trading to foreign

9. The merchants of both parties shall have proper houses for themselves and their merchandise in the several towns and cities of the other party, with the same privileges and immunities as have been customary before the last fifty years; and shall in all respects be as kindly treated as any other foreign nation residing there.

10. The officers in either country appointed for searching for contraband goods, shall perform it civilly, without spoiling them, or breaking the chests, barrels, packs, or sacks, under pain of one month's imprisonment. And when the searchers shall have opened them, they shall assist in the shutting and mending of them, &c. Nor shall they compel the owners to sell or dispose of the same against their own inclinations.

11. If the English residing in the Netherlands shall suspect a debtor there to intend an elopement, the debtor may be compelled to give security there for paying the debt; and the Netherlands in England shall enjoy the same benefit.

12. Upon any damage or violence done to the subjects of the contracting parties, the damaged party shall not immediately take out letters of marque or reprisals, nor arrest either the person or the goods of the accused party, but shall first warn or summon him before his respective prince, who alone ought to give redress to the injured party.

13. All letters of marque and reprisals shall be called in, and shall remain suspended on both sides, unless it shall be otherwise determined by a future congress of both parties.

14. And it is forbidden to the English and others to enter the castle of Sluys, in Flanders; and it is now stipulated that in case, through ignorance or any other cause not appearing to be fraudulent, any merchants or other subjects of the King of England shall happen to enter the gate of the said castle, they shall not, merely from that cause, be injured in their persons nor goods.

15. The English shall freely bring bullion of gold or silver through the Netherlands and from other countries, in order to carry the same into England, provided they bring certificates from the proper officers of those other countries of the quantity of bullion so bought or otherwise lawfully acquired.

16. None but the public and anciently known and received weights shall be used in either country.

17. For conservators of this peace and intercourse of commerce, there were appointed by Henry VII., on the part of England, sundry lords therein named, and likewise the mayors and aldermen of London, York, Bristol, Winchester, Canterbury, Rochester, Southampton, Sandwich, (Sandwich) Dover, Lynn, Dartmouth, Plymouth, Hull, Winchelsea, Boston, Yarmouth, and Berwick, who also bound themselves, to the Archduke Philip, under the obligation of all their goods, present and future, to endeavour, to the utmost of their power, that their sovereign Henry VII. should faithfully keep it inviolable in all its parts; and on the part of the Archduke there were also bound several lords of his countries, and also the burgo-masters of Gaunt, Bruges, Ypres, Dunkirk, Newport, Antwerp, Bergen-op-zoom, Doort, Delft, Leyden, Amsterdam, Middleburgh, Zirikzee, Tervere, Mechlin, and Briel, to see the said peace and intercourse of commerce faithfully kept.

Signed at London, 24th Feb. 1496; ratified April, 1496.

countries, and particularly to the Netherlands. At first this fine was only an old noble, or *6s. 8d.*, money of the time; but by successive additions it was raised to no less than *40l.*, money of the time, and was justly complained of by the merchants and traders in the outports as an intolerable burden. In 1497, an act was passed (12th Hen. VII. cap. 6.) to obviate this abuse. It declares that all Englishmen shall have free liberty 'to trade to the coasts of Flanders, Holland, Zealand, and Brabant, and other parts adjoining,' on payment of a fine of ten marks (*6l. 13s. 4d.* money of the time,) to the merchant adventurers of London. That this act effected a very great improvement on the previous practice is obvious; but the circumstance of a private company in London being allowed to impose a fine on all merchants in other parts of the kingdom engaged in foreign adventures, shows how little the most obvious principles were then understood.

The influence of the measures adopted by Henry VII., in the view of directly encouraging commerce and navigation, was trifling compared with the influence of those which operated indirectly, by putting down abuses and establishing the authority of the law. From a very remote period the great lords had been accustomed to maintain vast numbers of servants and retainers, partly for the purpose of displaying their grandeur, and partly as the means of security and of attack. The retainers generally lived on the estates of their masters, who supplied them with badges and liveries, and with provisions while in service. These persons were not only ready upon all occasions, when called upon, to support the cause of their lords, to execute their orders, and *to give evidence for them in courts of law*, but trusting to their influence to screen them from justice, they scrupled not, whenever an opportunity offered, to attack those they considered as their master's enemies! The predatory habits acquired in such a mode of life could not be easily laid aside; and when dismissed from service, or not employed by their masters, they generally supported themselves by theft and robbery. Many statutes had been passed for repressing so enormous an abuse, but without any perceptible effect; and during the civil wars the evil attained to a frightful excess. No provision being made for disbanded sol-

diers or retainers, it was not unusual to expose liveries for sale, and the competition for them amongst idle and disorderly persons was such that they occasionally brought considerable sums. Henry VII. determined to abate this nuisance; and his sagacity and firmness, and the circumstances under which he was placed, enabled him to succeed. Many of the principal nobles had perished in the struggles terminated by the battle of Bosworth; and their power had been impaired by repeated confiscations, and by the extraordinary expenses they had had to sustain. They were, therefore, but ill-fitted to defend their privileges against so able and powerful a prince as Henry, who perceived and made use of his advantage. The laws against giving badges and liveries, and employing retainers, were renewed and enforced with a rigour that none could expect to elude. At the same time, too, that the barons were compelled to lay aside their feudal pomp, and to dismiss their vassals, the improved and more luxurious habits that began to be diffused throughout the nation, disposed them to receive money payments, instead of personal services, from their tenants and dependents. And the lower ranks of people being thus, as it were, abandoned by their feudal superiors, were obliged, instead of trusting to them for support and protection, to resort to some species of industry, and to respect those laws they could no longer trample upon with impunity. The change that was thus effected was of the greatest importance, and had the most decisive and beneficial influence on all ranks and orders. Had the practice of maintaining crowds of retainers continued, order and tranquillity could never have been established.

The power of the great lords was undermined by another law, which, though less felt at the time, has been hardly less important perhaps in its consequences than any other passed in the reign of Henry VII. This was the legitimation of the practice, introduced in the reign of Edward IV., of breaking entails by a fine and recovery. 'By means of this law,' says Hume, 'joined to the beginning luxury and refinement of the age, the great fortunes of the barons were gradually dissipated, and the property of the commons increased in England. It is probable that Henry foresaw and intended this consequence; because the constant scheme of his po-

licy consisted in depressing the great, and exalting churchmen, lawyers, and men of mean families, who were more dependent on him.*

The circle of commerce being now enlarged on all sides, merchant-ships began to be built of larger size, and to be fitted up with better accommodations. Henry VII. was a considerable ship-owner. He built several large ships, which, when not employed in the public service, he was accustomed to freight to the merchants.

Still, however, these favourable circumstances had less influence than might have been imagined in extending the sphere of foreign commerce. The nation had been so long distracted by intestine commotions, and the merchants and seamen of the Hanse Towns and the Italian Republics continued to engross so large a share of the trade and navigation of England, that but few, comparatively, of Henry's subjects had any desire to engage in remote adventures. The persevering efforts of the Portuguese to discover a route to India by sailing round Africa, and their discoveries, appear to have excited little attention and no emulation in England. The discovery of a new world by Columbus was, indeed, too extraordinary an event not to arrest the attention of every one, and to arouse even the most indifferent to some degree of enterprise. An association having been formed in England for the purpose of prosecuting discoveries, a patent was granted by Henry to John Cabot and his three sons, authorising them to make discoveries, 'on their own proper costs and charges,' in all parts of the world unknown to Christians. Under this sanction, an expedition, consisting of five ships, sailed from England in 1496. It was commanded by Sebastian Cabot, the second son of John, who, though his father was a Venetian, was himself born in Bristol. In point of nautical skill, sagacity, and perseverance, Sebastian Cabot seems to have been little, if at all, inferior to Columbus; and as the lands seen by the latter in his first and second voyages were situated in the West Indies, the honour of being the first discoverer of the American continent is due to Sebastian. He sailed along the whole coast from Hudson's Bay to Florida; and in so far as priority of discovery gives any right to dominion, the claim of the English to

the exclusive possession of the greater part of the continent of North America is unquestionable*.

Two years after (1498) Cabot was sent out as commander of a squadron of six ships, equipped at King Henry's expense, further to explore the lands and islands discovered on his previous voyage. But though this shows that the King was not insensible to the value and importance of so splendid a discovery, no attempt was made either in his reign, or for a long time after, to turn it to account, by founding a colony in the countries visited by Cabot, or by opening an intercourse with them.

Various circumstances contributed to occasion this neglect. As soon as Ferdinand and Isabella, by whose marriage the crowns of Castile and Arragon had been united, learned the success of Columbus, they applied to Pope Alexander VI. for a grant of such territories as they might discover, that were in the possession of infidels. The Pontiff, desirous at once to display, and at the same time to extend, his power, readily assented to the wish of the Spanish monarchs. As vicar and representative of Jesus Christ, he conveyed to them the full right to, and sovereignty of, all the countries lying to the west of an imaginary line, supposed to be drawn from pole to pole a hundred leagues to the westward of the Azores. And as the Portuguese had previously acquired, by a bull of Eugene IV., a right to all the countries between Cape Non, on the coast of Africa, and the continent of India, the two peninsular nations engrossed between them, by what was then believed to be a good title, two-thirds of the entire surface of the globe! The lands discovered by Cabot plainly formed a part of the ample donation made to the crown of Spain by Alexander VI.; and ridiculous as the pretension to make such a grant may now appear, its validity was, at the time, universally acknowledged. Henry besides was exceedingly anxious to preserve the friendship of Ferdinand,

* The Memoir of Sebastian Cabot (by Mr. Bidle, an American), published in 1831, is one of the most valuable books that has ever appeared on the history of maritime discovery. The author has resorted to original sources. He discovered in the Rolls Chapel, and has printed for the first time, the patent granted to John Cabot in 1498, in which reference is made to 'the lands and isles of late found by the said John'; and which, consequently, puts to rest all doubts as to the era of Cabot's discovery. The reasons assigned by the author for concluding that Sebastian Cabot the son, and not John the father, commanded in both expeditions, are less satisfactory than the other parts of the work.

for whom he professed the greatest esteem; and was endeavouring, indeed, at the very moment when Cabot's discovery transpired, to negotiate the marriage that afterwards took place between his eldest son and the Princess of Spain.

These circumstances, coupled with the distrustful character of the king, sufficiently account for no effort being made by the English, during the reign of Henry VII., to found any colony, or to acquire any footing in a distant country. His son and successor, Henry VIII., was frequently at war with Spain; and having emancipated himself from the authority of the Pope, the bull of Alexander VI. could hardly have much influence on his conduct. His subjects had also become more commercial, and exaggerated ideas began to be entertained of the value of foreign possessions. But in the first part of his reign, Henry engaged with inconsiderate ardour in the great struggle between Charles V. and Francis I.; and in the sequel he, as well as the nation, was too much occupied and agitated with domestic affairs, particularly with the subversion of the papal authority, and the disputes to which it gave rise, to be able to bestow any considerable degree of attention on projects of discovery or colonization. But, though not immediately concerned in them, the splendid discoveries of Columbus and Vasco de Gama had a powerful influence in England, as well as in every other country. 'The enlargement of commerce and navigation increased industry and the arts everywhere; the nobles dissipated their fortunes in expensive pleasures; men of an inferior rank both acquired a share in the landed property and created to themselves a considerable property of a new kind, in stock, commodities, art, credit, and correspondence. In some nations, the privileges of the commons increased by this increase of property. In most nations, the kings, finding arms to be dropped by the barons, who could no longer endure their former rude manner of life, established standing armies and mastered the liberties of the kingdom. But in all places the condition of the people, from the depression of the petty tyrants, by whom they had formerly been oppressed rather than governed, received great improvement, and they acquired, if not entire liberty, at least the most considerable advantages of it. And as the general course

of events thus tended to depress the nobles and exalt the people, Henry, who also embraced that policy, has, perhaps, acquired more praise than his institutions, strictly speaking, seem of themselves to deserve on account of any profound wisdom attending them.—(*Hume's England*, cap. xxvi.)

Like his father, Henry VIII. was disposed to promote the interests of commerce, and some of the measures he took in this view were not ill calculated to effect their object. In 1515 he established, or rather, perhaps, renewed and extended, the famous guild or corporation of the Trinity House at Deptford, for the licensing and regulating of pilots, and for the erection and ordering of light-houses, beacons, &c. Similar establishments were soon after founded at Hull and Newcastle. In this instance Henry followed the example of Charles V., who, observing the numerous shipwrecks in the voyages to the West Indies occasioned by the ignorance of seamen, established at the *Casa de Contratacion*, in Seville, lectures on navigation, and a pilot major for the examination of other pilots and mariners. Charles also directed treatises on navigation to be published for the use of navigators.

On the whole, however, there is little reason to think that commerce gained much by the efforts of Henry VIII. for its encouragement; and its increase during his reign ought rather to be ascribed to the gradual development of the national resources, occasioned by the subversion of the feudal system, and the natural growth of opulence, than to the efforts of government to excite the dormant energies of the people. Many of the laws and institutions of Henry were indeed calculated to have a precisely opposite effect. Among others that might be mentioned, the influence of which, had they been acted upon, must have been exceedingly injurious, were statutes restraining the cloth manufacture, in Worcestershire, to the city of Worcester, and four other towns, and prohibiting the manufacture of coverlets anywhere in the county of York except in the city. The groundless complaints of the city of London against aliens were favourably listened to by the king. Henry even went so far as to affirm in an edict of the star-chamber, printed amongst the statutes, that the foreigners starved the natives, and obliged them from idleness to have re-

course to theft murder, and other enormities! To prevent the increase of these imaginary evils, fresh restraints were laid on the employment of foreign artisans, and on the residence of foreign merchants. But, as the philosophical historian has observed, Henry had done better to have encouraged foreign merchants and artisans to come over to England; which might have excited the emulation of the natives, and improved their skill.

Henry VIII. may be styled the founder of the royal navy of England. He appointed a board of commissioners for its regulation; erected warehouses for naval stores; and constructed the dock-yards at Deptford and Woolwich for building and equipping ships of war. Some of Henry's predecessors had a few ships, which they employed sometimes in trade, and sometimes in war; but they did not deserve the name of a navy. At his death, however, fifty-three ships belonged to the crown, some of which were of considerable magnitude. The *Henry Grace de Dieu* was of 1,000 tons; she carried 19 brass and 103 iron guns, and her crew consisted of 301 mariners, 349 soldiers, and 50 gunners. There was another ship of 700 tons, two of 600, and two of 500; the tonnage of the whole fleet being 6,255 tons. The trading ships were also larger and better built than at any previous period.—(*Henry's Great Britain*, vol. xii., p. 344.)

The reign of Henry VIII. is famous for the introduction of several new manufactures, and of many new articles of food and clothing. Among the former, the art of knitting stockings may be mentioned; for, though Howell states that Henry wore only cloth hose, (*History of the World*, vol. iii., p. 222,) it is certain that knit stockings were then made in England, though probably in very limited quantities and only of wool. Sir Thomas Gresham, the famous merchant, presented Edward VI. with a pair of silk stockings received from Spain; and Queen Elizabeth is represented as having laid aside the use of cloth hose in the third year of her reign. Lord Herbert affirms, in his history of Henry VIII., that cannon were not made in England till 1535; and though the perfect accuracy of this statement has been impeached, there is no doubt that by far the greater number, if not the whole, of those previously made use of, were imported. Soap was not manufactured in London till

1524. The culture of currants, hops, and several other fruits and vegetables, seems to have been, for the first time, introduced into England about this period. The earliest notice of hops in the statute-book occurs in 1552. The introduction of turkies into England dates, it is said, from Henry VIII.—(*Anderson*, vol. i., p. 354.)

The prodigal expenditure of Henry VIII., having speedily occasioned the dissipation of the immense treasures left by his father, forced him to resort to many disgraceful expedients for obtaining supplies, and among others to the degradation of the coin. He carried this vile species of fraud to an extent unknown in any other period of our history; and the consequences were most pernicious. Coins of full weight were either hoarded or withdrawn from circulation; and all sorts of produce were withheld from market, so that prices rose to the full extent of the degradation, and everything was thrown into extreme confusion. The most violent measures were resorted to for the purpose of counteracting these effects. Farmers were ordered to bring their grain to market, and to sell it at reasonable prices; buying in one market in order to sell in another was prohibited under the severest penalties; and the exportation of all sorts of provisions was forbidden except to Calais. But such arbitrary measures only served to aggravate the evil. 'At length,' says Mr. Martin Folkes, 'it was found by experience that gold and silver had, by the common consent of all people, throughout the civilized parts of the world, acquired certain real and proper values; and that in such a nation as this, not destitute even then of all commerce with strangers, it was impossible that the arbitrary value set upon pieces of base metal could, for any considerable time, supply the want of the silver that used to be contained in the pieces of the same denominations. Whatever names were given to those pieces of base metal, or by whatever authority their imaginary value was supported, the poor people would either not bring their provisions at all to the markets, to exchange them for such money, or would then sell them at much higher rates than before; as the nominal sums they received for their goods would not now purchase them the same conveniences elsewhere, as the same nominal

sums of better money had formerly done. It was, therefore, judged absolutely necessary to reform and to amend the coin. The affair was very seriously considered, and the work was undertaken and carried on with so much diligence and vigour, that within a few months a reformation of the money was brought about, truly memorable, and no less remarkable than the former abuses of it had been: for the new pieces that were coined before the end of this year 1551, were of more than *four times* the value of those of the same denominations that had been coined in the former months of the same*.

The reformation of the coin was nearly completed in the early part of the reign of Elizabeth, and was perfected before its close. *Moneta in justum valorem restituet*, says her historian. Her conduct in this respect has been deservedly eulogized; and on two memorable occasions, in 1698 and 1819, was appealed to with effect by the advocates of sound principles.

Though, in their immediate effects, the Reformation, and the destruction of the monasteries, were probably injurious to the lower classes, they have been of the greatest public advantage. The Reformation broke those trammels by which the human mind had been enchained for ages, and gave it the impulse which it still retains. The destruction of the monasteries converted into industrious citizens many thousand individuals of both sexes, who, with very few exceptions, lived, under the cloak of religion, in luxurious idleness, debauched by every sort of vicious indulgence. A crowd of fast days and superstitious observances were at the same time abolished; and the court of Rome ceased to derive from England a large part of the supplies required to defray its extravagant expenditure. It is no part of our business to inquire into the motives of Henry in effecting so great a revolution. His measures, how unworthy soever the principle whence they sprung, were as beneficial as if they had been dictated by the most deliberate wisdom. A less rough and violent hand might have been inclined to tamper with abuses which the public interest required should be rooted out.

Notwithstanding the little encourage-

ment given by the king and the public, some attempts at discovery, with a view to commerce, were made in the reign of Henry VIII. The grand object at that time, and for several years afterwards, was the discovery of a passage to India, by sailing in a north-westerly direction, that they might thus avoid infringing the rights claimed by the Portuguese. These efforts were prosecuted with much perseverance. Notwithstanding the ill success with which they had been attended, a fresh attempt of this sort was made in 1553, in the reign of Edward VI., in two ships commanded by the famous Sir Hugh Willoughby and Captain Richard Chancellor. These navigators carried with them a letter from the king, translated into Latin, Greek, and other languages, addressed to all kings, princes, and persons in authority. This letter, which is preserved in Hakluyt, evinces the most enlightened views as to commerce and discovery; and is, in all respects, so creditable to our ancestors, that we shall lay an extract from it before the reader. It begins by setting forth the disposition to cultivate the love and friendship of his kind, implanted by the Almighty in the heart of man,—the consequent duty of all, according to their power, to maintain and augment this desire,—and the conduct of the king's ancestors in this respect, which had ever been 'to shewe good affection to those that came to them from farre countries.' It then proceeds as follows:—

'And if it be right and equity to shewe such humanities to all men, doubtless the same ought chiefly to be shewed to merchants, who, wandering about the world, search both the land and the sea, to carry such good and profitable things as are found in these countries to remote regions and kingdoms, and again to bring from the same such things as they find there commodious for their own countries: both as well that the people to whom they goe may not be destitute of such commodities as their countries bring not forth to them, as that also they may be partakers of such things whereof they abound. For the God of heaven and earth, greatly providing for mankind, would not that all things should be found in one region, to the end that one should have need of another; that by this means friendship might be established among all men, and every one seek to gratifie all. For the establish-

* Table of English Silver Coins, p. 36.

ment and furtherance of which universal amitie, certaine men of our realme, moved hereunto by the said desire, have instituted and taken upon them a voyage by sea into farre countries, to the intent that, between our people and them, a way may be opened to bring in and carry out marchandises, desiring us to further their enterprises. Who, assenting to their petition, have licensed the right valiant and worthy Sir Hugh Willoughby, Knight, &c., according to their desire, to goe to countries, to them heretofore unknown, as well to seek such things as we lacke, as also to carry to them, from our regions, such things as they lacke. So that hereby not only commoditie may ensue both to them and us, but also an indissoluble and perpetual league and friendship, &c. We, therefore, desire you, kings and princes, and all others to whom there is any power on earth, to permit, unto these our servants, free passage by your regions and dominions; for they shall not touch any thing of yours unwilling unto you. Consider you that they also are men. If, therefore, they shall stand in neede of anything, we desire you of all humanitie, and for the nobilitie which is in you, to aide and help them with such things as they lacke. Shewe yourselves towards them, as you would that we and our subjects should shewe themselves towards your servants, if at anie time they shall pass by our regions.'—(*Hakluyt*, vol. iii., p. 231.)

This expedition was partly successful, and partly unsuccessful. The ships having parted company in a storm, Willoughby took refuge in a harbour in Russian Lapland, where, having attempted to winter, he, and all his companions, perished of cold. Chancellour was more fortunate. Having entered the White Sea, he wintered in safety at Archangel, and, though the first stranger who had visited their port, was kindly treated by the inhabitants. Here Chancellour learned that Archangel formed part of the dominions of the Grand Duke or Czar of Muscovy, who resided at Moscow, 1200 miles distant. Undismayed by the difficulty and danger of the journey, Chancellour set out for Moscow, where he arrived in safety. He was hospitably received by the Czar Ivan Vassilovitch; who, perceiving the advantages that might accrue to his subjects from an intercourse with the states of Western Europe, gave

Chancellour a letter to the King of England, in which he invited his subjects to trade with his dominions, and gave them ample assurances of favour and protection. In consequence, an active and advantageous intercourse was immediately established with Archangel; which continued, till the foundation of Petersburg, to be the only port in the Russian dominions frequented by foreigners.

In all barbarous and semi-civilized countries dealers in corn are the objects of popular indignation. The people suppose that they would obtain this great article of provision at a lower price were they to buy it directly from the producers. The profits of the middleman, or dealer, seem to be wholly taken out of their pockets. They do not reflect that if he were driven from the trade, the farmer would be obliged, with much inconvenience to himself, to perform the duties that he performs; to carry his corn to distant markets, and to sell it in such small quantities as might suit the demands of his customers. It would obviously be impossible for him to do this without having additional capital at his command, and without his attention being constantly diverted from the culture of his farm. But the mere disposal of the crop to the consumers is but the smallest part of the business of the corn dealers. They estimate and equalize the consumption with the supply. If the corn merchants, who endeavour to inform themselves correctly as to such matters, ascertain that the crop of any given season is deficient, they immediately raise its price, so that the whole nation is placed as it were upon short allowance; improvident consumption is checked; and the supply that might otherwise have been exhausted in ten months is distributed equally over the twelve. Dealers in corn also buy up a portion of the produce of a plentiful year, and reserve it as a stock to be disposed of in the first scarcity that occurs; so that they not only equalize the supply of each particular season, but contribute to equalize the supplies of different seasons. Their operations are thus advantageous alike to the consumers and the producers. They protect the former from famine, and husband for them those resources they could not have so advantageously husbanded for themselves ~~and they protect the latter from~~

destructive oscillations of price. In fact, if there be one class of dealers more deserving of encouragement and protection than another, that class consists of those who deal in corn.

But, for the reasons already stated, our ancestors, instead of encouraging the trade of the corn dealers, endeavoured to annihilate it altogether. By the statute 5 and 6 Edward VI. cap. 14, it was enacted, 'That whosoever shall buy any corn or grain with intent to sell it again, shall be reputed an unlawful engrosser; and shall for the first fault suffer two months' imprisonment, and forfeit the value of the corn; for the second, suffer six months' imprisonment, and forfeit double the value; and for the third, be set in the pillory, and suffer imprisonment during the king's pleasure, and forfeit all his goods and chattels.'

But it was found impossible to dispense entirely with the services of those who were then denominated kidders, or carriers of corn; no one, however, was allowed to undertake this business without having previously obtained a license, ascertaining his qualifications as a man of probity and fair dealing. In the reign of Elizabeth, the privilege of granting such licenses was confined to the Quarter Sessions.

It would be useless to waste the reader's time by dwelling on the absurdity of such regulations. Those familiar with the prices of corn in the ages under review, are aware that the fluctuations exceed anything of which we can now form any idea. Owing to the badness of the roads; and to the difficulties in the way of transporting corn to any considerable distance, its prices in places remote from each other often differed considerably*; and it was almost always exceedingly scarce and dear before harvest.

As society advanced, the more intelligent portion of the community became aware of the impolicy of the restraints on the corn dealers. The rigour of the act of Edward VI. was, in consequence, modified by several subsequent statutes, principally enacted during the reign of the Stuarts. The statutory restrictions on the internal corn trade were not, however, entirely repealed till 1772. And, such is the

influence of prejudice, that in 1800 an individual of the name of Rusby was indicted at common law, and convicted of the imaginary crime of *regrating*, that is, of selling a quantity of corn in the same market in which he had purchased it, at an advance of 2s. a quarter! So slow is the progress of sound philosophy even among those whose education and station ought to set them above vulgar delusions.

Mary, who espoused Philip II. of Spain, was quite as bigoted as her husband, to whose wishes she gave the readiest assent. She was, consequently, induced, not only by deference to the Pope's bull, but out of respect to Philip, to discountenance all plans of commerce or discovery, that might have brought the English into collision with the Spanish, by exploring or settling any part of the New World. It is, however, pretty certain that the study of the Spanish language, which became fashionable at court after the marriage of Philip, and the facility which was thus afforded of reading Spanish works on geography and navigation, as well as the information obtained from the Spaniards who accompanied Philip to England, as to their possessions in the New World, and the policy followed in respect to them, excited the desire of the English to acquire some share in such valuable possessions; at the same time that it furnished them with information that was of material service in their expeditions during the following reign.

At length, under the vigorous sway of Elizabeth, the taste of the nation for naval enterprise was fully awakened. The attempt at invasion made by Spain, though it failed, opened the eyes of all classes to the importance of having a powerful fleet; at the same time that the enthusiasm inspired by the success which attended the English in their struggle with the armada, and in their expeditions under Drake, Raleigh, Hawkins, Frobisher, Norris, Borroughs, &c., infused a spirit of daring and boldness into our navigators, that rendered them equal to the most arduous undertakings. The attempts that were made to establish colonies in America, in the reign of Elizabeth, were not, however, successful. But in the early part of the reign of her successor, James I., the foundations were laid of the English empire in America; the unprecedented advance of which had a wonderful influ-

* In fact such transportation was once prohibited. This appears from a regulation established in 1440, by which commissioners of the customs were authorised to grant licenses for the carrying of corn from one county to another.

ence in promoting the commerce and navigation of the mother-country.

The opening of the trade to India, and the formation of the East India Company, events of the utmost importance in the commercial history of the empire, illustrate the reign of Elizabeth. Captain Stephens, who performed the voyage in 1582, was the first Englishman who sailed to India by the Cape of Good Hope. The voyage of Sir Francis Drake contributed to make the English better acquainted with the newly-opened route to India. But the voyage of the celebrated Mr. Thomas Cavendish was, in the latter respect, the most important. Cavendish sailed from England in a little squadron, fitted out at his own expense, in July, 1586, and having explored the greater part of the Indian Ocean as far as the Philippine Islands, and carefully observed the most important characteristic features of the people and countries which he visited, returned to England, after a prosperous navigation, in September, 1588. Perhaps, however, nothing contributed so much to inspire the English with a desire to embark in the Indian trade, as the captures that were made at this time from the Spaniards. A Portuguese East India ship or carrack, captured by Sir Francis Drake, during his expedition to the coast of Spain, inflamed the cupidity of the merchants by the richness of her cargo, at the same time that the papers found on board gave specific information respecting the traffic in which she had been engaged. A still more important capture of the same sort was made in 1593. An armament fitted out for the East Indies by Sir Walter Raleigh, and commanded by Sir John Borroughs, fell in, near the Azores, with the largest of the Portuguese carracks, a ship of 1,600 tons burden, carrying 700 men and 36 brass cannon, and after an obstinate conflict carried her to Dartmouth. She was the largest vessel that had been seen in England, and her cargo, consisting of gold, spices, calicoes, silks, pearls, drugs, porcelain, ivory, &c., excited the ardour of the English to engage in so opulent a commerce.

In consequence of these and other concurrent causes, an association was formed in London, in 1599, for prosecuting the trade to India. The adventurers applied to the Queen for a charter of incorporation, and also for power to exclude all other English subjects who

had not obtained a license from them, from carrying on any species of traffic beyond the Cape of Good Hope or the Straits of Magellan. As exclusive companies were then very generally looked upon as the best instruments for prosecuting most branches of commerce and industry, the adventurers seem to have had little difficulty in obtaining their charter, which was dated the 31st Dec. 1600: the corporation was entitled 'The Governor and Company of Merchants in London trading to the East Indies.' The first governor (Thomas Smythe, Esq.) and twenty-four directors were nominated in the charter; but power was given to the company to elect a deputy-governor, and in future to elect their governor and directors, and such other office-bearers as they might think fit to appoint. They were empowered to make bye-laws; to inflict punishments, either corporal or pecuniary, provided such punishments were in accordance with the laws of England; to export all sorts of goods free of duty for four years; and to export foreign coin or bullion to the amount of 30,000*l.* a year, 6,000*l.* of the same being previously coined at the mint; but they were obliged to import within six months after the completion of every voyage, except the first, as much silver, gold, and foreign coin, as they exported. The duration of the charter was limited to fifteen years; but with and under the condition that, if it were not found for the public advantage, it might be cancelled at any time upon two years' notice being given.—Such was the origin of the British East India Company,—the most celebrated commercial association either of ancient or modern times, and which has now extended its sway over the whole of the Mogul empire.

The trade from England to Africa commenced in 1526, when some merchants of Bristol sent thither cloth, soap, and a few other articles in Spanish ships. Within a short period, however, English ships traded direct to that continent, whence they brought ivory, gold dust, drugs, &c.; but the trade was of trifling importance till slaves began to be carried from the west coast of Africa to the West Indies. The famous Sir John Hawkins is said to be the first Englishman who engaged in this infamous traffic. Having fitted out a small squadron in 1562, he sailed for the coast of Guinea, where he procured a cargo of slaves, which he carried to St. Domingo,

where he disposed of them to advantage. The first adventure seems to have excited little attention, but it was speedily followed by others; and as the trade increased, it was regarded as of great national importance. It was not till a comparatively recent period that the public became alive to its guilt and horrors.

There is scarcely, indeed, a branch of foreign commerce carried on at present, with the exception of that to China, that was not prosecuted, to a greater or less extent, in the reign of Elizabeth. The number of vessels was greatly increased. The flag of England floated on every sea, and everywhere commanded respect. Many branches of manufacture were introduced, while those already established received large augmentations.

The very well-informed Mr. John Smith estimates the value of the woollen goods annually exported from England to the Low Countries, Scotland, and the north of Europe, &c., in the early part of the reign of Elizabeth, at 1,200,000*l.* or 1,300,000*l.*; and this immense exportation of the manufactured article is exclusive of a considerable exportation of raw wool, which might be freely exported.* Many circumstances conspired to produce this development of the national resources. The old plan of paying rents by services was well nigh relinquished; the public tranquillity was rarely interrupted; and a taste for improved accommodations was diffused throughout all classes. In addition to these favourable circumstances, the persecutions in the Low Countries occasioned the emigration of several thousands of the most industrious citizens, many of whom came to England, and materially promoted the improvement of our manufactures.

There were some circumstances, however, the tendency of which was far less favourable. Of these the most injurious was the practice of giving patents to particular individuals or associations, authorising them to carry on some particular branch of trade or industry to the exclusion of others. Such monopolies were granted in immense numbers by the Queen to her favourites, who sold the patents to speculators, who raised the monopolized articles to whatever price they pleased, to the extreme injury of the public. The number and importance of the commodities that were thus

assigned are quite astonishing. Currants, salt, iron, powder, cards, calfskins, fells, pouldaries, ox-shin bones, train oil, lists of cloth, potashes, aniseed, vinegar, sea-coal, steel, aqua vitæ, brushes, pots, bottles, saltpetre, lead, accidences, oil, calamint, stone, glasses, paper, starch, tin, sulphur, new drapery, dried pilchards, with the trade in Spanish wools, are but a part of the commodities and businesses that were made over to monopolists. When this list was read in the House of Commons, a member cried out, *Is not bread in the number? Bread!* said every one with astonishment. *Yes, I assure you,* replied he, *if affairs go on at this rate we shall have bread reduced to a monopoly before next Parliament.* The monopolists were so exorbitant in their demands, that in some places they raised the price of salt from 1*s.* 4*d.* a bushel to 14*s.* and 15*s.* These high profits naturally produced interlopers and emigrants; and in order to secure their rights against encroachments, the patentees were armed with such high and arbitrary powers from the Council, that they were able to oppress the people at pleasure, and to exact money from such as they thought proper to accuse of interfering with their patents. The patentees of saltpetre, having the power of entering into every house, and of committing what havoc they pleased in stables, cellars, or wherever they suspected saltpetre might be gathered, commonly extorted money from those who desired to free themselves from this damage or trouble. And while domestic industry was thus restrained and fettered, most branches of foreign trade were surrendered to exclusive companies, who carried them on for their own advantage merely, without any regard to the interests of the public. —(*Hume's England*, cap. xlv.)

Such scandalous abuses became at length quite intolerable; and notwithstanding the deference that was then entertained for the royal prerogative, a Bill was introduced for abolishing all monopolies. It was zealously opposed by the courtiers; but the queen, who perceived how odious her grants were become, had the good sense to give way; and voluntarily cancelled those that were most oppressive. The evil, however, was not wholly abated till near the close of the following reign, when the famous statute of the 21st Jac. I. cap. 3. was passed. This statute declares that all monopolies, grants, and letters-patent, for

* *Memoirs of Wool*, vol. II. p. 106.

the sole supplying, selling, and making of goods and manufactures, shall be null and void. It excepts patents for fourteen years, for the sole working or making of any new manufacture within the realm, to the true and first inventors of such manufactures, provided they be not contrary to law or mischievous to the state. It also excepts grants by act of parliament to any corporation, company, or society for the enlargement of trade, and letters-patent concerning the making of gunpowder and a few other articles. With the exception of the restraints imposed by the charters of incorporations, this act effectually secured the freedom of industry in Great Britain, and has done more, perhaps, to excite a spirit of industry, and to accelerate the progress of wealth, than any other in the statute-book.

Among other means for promoting and facilitating commerce and navigation, that were either discovered or improved during the reign of Elizabeth, may be mentioned the act of 1601, (43rd Eliz. cap. 12.) with respect to marine assurance. The preamble sets its utility in the clearest point of view. 'Whereas it hath been, time out of mind, an usage among merchants, both of this realm and of foreign nations, when they make any great adventure, (especially into remote parts,) to give some consideration of money to other persons, (which commonly are in no small number,) to have from them assurance made of their goods, merchandises, ships, and things adventured, or some part thereof, at such rates and in such sort as the parties assurers and the parties assured can agree; which course of dealing is commonly termed a policy of assurance; by means of which it cometh to pass, upon the loss or perishing of any ship, there followeth, not the undoing of any man, but the loss lighteth rather easily upon many than heavily upon few, and rather upon them that adventure not than upon those that adventure; whereby all merchants, especially the younger sort, are allured to venture more willingly and more freely.' According to Malynes, (*Lex Mercat.* p. 105,) insurance was first practised amongst us by the Lombards, and had, most probably, been introduced some time about the middle of the sixteenth century. It appears from the statute that it had originally been usual to refer all disputes that arose with respect to assurances, to the decision of 'grave and discreet' merchants, ap-

pointed by the Lord Mayor. But abuses having arisen out of this practice, the statute authorized the Lord Chancellor to appoint a commission for the trial of insurance cases; and in the reign of Charles II. the powers of the commissioners were enlarged. But this court soon after fell into disuse; and, what is singular, no trace of its proceedings can now be discovered.

There are no means of forming any accurate account of the extent of the foreign trade of England at the close of Queen Elizabeth's reign; but some interesting details with respect to it have been preserved in a tract of J. Wheeler, secretary to the Merchant Adventurers, printed at Middleburg in 1601. The Steel-yard and Hanseatic Associations having been previously abolished, the Merchant Adventurers engrossed, at the period referred to, most part of the trade to other countries. Their dealings are thus described by their secretary:—

'There is sent out yearly by the aforesaid company, at least 60,000 white cloths, besides coloured cloths of all sorts, kerseys, short and long bays, cottons, Northern dozens; the just value of these 60,000 white cloths cannot well be calculated or set down, but in my opinion they are not worth less than 600,000*l.* sterling.

'The coloured cloths of all sorts, bays, kerseys, &c., I reckon at the number of 40,000 at least; and they are worth 400,000*l.* sterling.

'There goeth also out of England, besides their woollen cloths, into the Low Countries, wool, woolsels, lead, tin, saffron, coney-skins, leather, tallow, alabaster, stones, corn, beer, and divers other things, amounting unto great sums of money.

'We have next to show, what the Merchant Adventurers buy, for return, of strange nations and people frequenting their mart towns and bringing their country commodities thither.

'Of the Dutch and German merchants they buy Rhenish wine, fustians, copper, steel, hemp, onion seed, copper and iron ware, lattice, kettles and pans, linen cloth, harness, saltpetre, gunpowder, all things made at Nuremberg; and, in fine, there is no kind of wares that Germany yieldeth, but generally the Merchant Adventurers buy as much or more thereof as any other nation.

'Of the Italians they buy all kinds of silk, ~~wores~~ ^{silks}, velvets wrought and un-

wrought taffetas, satins, damasks, barse-nets, Milan fustians, cloth of gold and silver, programs, camlets, satin and sewing silk, organzine, orsoy, and all other kind of wares either made or to be had in Italy:

‘Of the Easterlings they buy flax, hemp, wax, pitch, tar, wainscot, deal boards, oars, corn, furs, cables and cable-yarn, tallow, ropes, masts for ships, soap ashes, estridge wool, and almost whatsoever is made or grown in the east countries.

‘Of the Portuguese they buy all kinds of spices and drugs.

‘With the Spaniards and French they have not much to do, by reason that other English merchants have had a great trade into France and Spain, and so serve England directly from thence with the commodities of those countries.

‘Of the Low Country merchants, or Netherlanders, they buy all kinds of manufactures and handiwork not made in England; tapestry, buckram, white thread, inkle, linen cloth of all sorts, cambrics, lawns, madder; and an infinite number of other things, too long to rehearse. I have heard it credibly reported, that all the commodities that come out of all other countries besides England, were not wont to set so many people at work in the Low Countries as the commodities which came out of England only did; neither that any other two of the greatest nations that frequented the said Low Countries for trade, buy or carry out so much goods in value as the Merchant Adventurers.’—(See pp. 25—28, original edition. We have modernized the spelling, but made no other alteration.)

Wheeler gives no data by which to judge of the total value of the exports and imports; but in an official account given by Misselden, in his *Circle of Commerce*, (p. 121,) published in 1623, the total value of the exports in 1612 is set down at 2,487,435*l.*, and that of the imports at 2,141,151*l.*; and this, if accurate, may be considered as not differing materially from their value in 1601.

No mention is made in the account given by Wheeler of sugar, which, however, had been imported, though in small quantities, long previously. Tobacco had barely been introduced into England in the reign of Elizabeth; tea was not heard of till half a century afterwards; and the foundations of the cotton manufacture had not been laid. The stimulus given by the desire to possess

these and other articles, and the additional scope afforded for the exercise of talent and enterprise in the new channels of employment and adventure that were now opened, had a most astonishing influence. The progress of improvement was somewhat retarded by the civil war during the reign of Charles II.; but the retardation was only temporary; and it has continued ever since rapidly to advance. At this moment the manufactures and commerce of Great Britain have attained to an unrivalled degree of improvement, and to an extent that in the earlier ages would not have been deemed possible. Nor is there any reason to suppose that they have reached their zenith. On the contrary, the greater freedom of industry we now enjoy, the greater amount of our capital, and the greater skill and intelligence of our merchants and artificers, will (supposing the public tranquillity is preserved) undoubtedly lead to still more astonishing displays of ingenuity and invention.

The coasting trade of England was, at an early period, very considerable; and it has continued to increase even more rapidly than the population and wealth of the country. Its great amount is principally to be ascribed to the ready access afforded by the Sea to most considerable places in Great Britain and Ireland, and the extraordinary facility of conveyance that is thereby afforded. The general use of coal as an article of fuel in modern times, and the circumstance of London and the southern counties being almost wholly supplied from the north, has occasioned the employment of a very large number of ships and seamen. The first mention of coal in England is believed to occur in a charter of Henry III. granting licence to the burgesses of Newcastle to dig for it. In 1281 Newcastle is said to have had a considerable trade in this article. About the end of this century, or the beginning of the fourteenth, coals began to be imported into London, being at first used only by smiths, brewers, dyers, soap-boilers, &c.; this innovation was, however, loudly complained of. A notion got abroad, that the smoke was highly injurious to the public health; and in 1316 the Commons petitioned Edward I. to prohibit the burning of coal, on the ground of its being an *intolerable nuisance*. His Majesty issued a proclamation conformable to the prayer of the petition; but it being but little at-

tended to, recourse was had to more vigorous measures; a commission of oyer and terminer being issued out, with instructions to inquire as to all who burned sea-coal within the city, or parts adjoining, to punish them for the first offence by 'pecuniary mulcts,' and upon a second offence, to demolish their furnaces, and to provide for the strict observance of the proclamation in all time to come.

But notwithstanding the efforts that were thus made to prohibit the use of coal, and the prejudice that was long entertained against it, it continued progressively to gain ground. This was partly, no doubt, owing to experience having shown that coal smoke had not the noxious influence ascribed to it, but far more to the superior excellence of coal as an article of fuel, and the growing scarcity, and consequent high price of timber. In the reign of Charles I., the use of coal became universal in London, where it has ever since been used, to the exclusion of all other articles of fuel. At the Restoration, the quantity imported was supposed to amount to about 200,000 chaldrons. In 1670, the imports had increased to 270,000 chaldrons. At the Revolution they amounted to about 300,000 chaldrons, and have since gone on increasing with the growing magnitude of the city; being, in 1750, about 500,000 chaldrons; in 1800, about 900,000 chaldrons; and at present, about 1,600,000 chaldrons.*

It may be worth while to remark, that coal is not the only article now reckoned of the highest utility, the introduction of which into general use has been violently opposed. Hops, among many others, were in this predicament. When they first began to be employed in the manufacture of beer, in the reign of Henry VIII., they were objected to on the ground that they would injure its taste and its quality. In the 'Improver Improved,' of Walter Bliethe, originally published in 1649, (3rd edit., p. 240,) there is the following striking paragraph:—"Hops are now grown to be a national commodity: but it was not many years since the famous city of London petitioned Parliament against two nuisances; and these were Newcastle coals, in regard to their stench, &c.; and hops, in regard they would spoyl the taste of

drink, and endanger the people. And had the Parliament been no wiser than they, we had been in a measure pined, and in a great measure starved, which is just answerable to the principles of those men who cry down all devices, or ingenious discoveries as projects, and thereby stifle and choak improvements."

The prejudice against taking interest for a loan of money, which appears to have principally originated in a mistaken interpretation of a text in the Jewish law (Deut. chap. xxiii. v. 20), exercised a powerful influence in the middle ages. In England, as in most other countries, Christians were absolutely prohibited, by the laws both of the church and state, from bargaining for interest; but as Jews, according to the Mosaic law, were allowed to lend at interest to a stranger, its exaction by them was at first connived at, and subsequently authorised by law: the same privilege being afterwards extended to the Italian or Lombard merchants. In consequence of this exemption, many Jews early settled in England, and engrossed a large share of the commerce of the kingdom. Such, however, was the contempt in which they were held, that they and their families were regarded as the slaves of the crown, by whom they were not unfrequently plundered, under the miserable pretence of punishing them for their 'hellish extortions.' To such an extent, indeed, were these oppressive practices carried, that a particular exchequer, called the *Exchequer of the Jews*, was established for receiving the sums extorted from them in fines, customs, forfeitures, tallages, &c.* In consequence they were obliged to indemnify themselves by charging an enormous interest; so that at nearly the same time that the republic of Genoa, where sounder principles prevailed, was paying from 7 to 10 per cent. interest on loans, and that bills were discounted in Barcelona at 10 per cent., we are told by Matthew Paris that the debtor in England paid 10 per cent. every two months! This, indeed, was quite impossible as a general practice; but it may not be far from the rate charged on the few loans that were then made.

The disorders occasioned by this ruinous interference on the part of government, at length became so serious that,

* Campbell's Political Survey of Great Britain, vol. ii. p. 30. Edington on the Coal Trade, p. 41, &c.

* Madox's History of Exchequer, p. 150.
+ *Middle Ages*, vol. iii. p. 492.

notwithstanding the powerful prejudice to the contrary, a statute was passed in 1646, (37th Hen. VIII. cap. 7.) legalizing the taking of interest to the extent of *ten per cent. per annum*; and this because, as is recited in the words of the act, the statutes 'prohibiting interest altogether have so little force that little or no punishment hath ensued to the offenders.' In the reign of Edward the VI. the horror against taking interest seems to have revived in full force; for in 1552 the taking of *any* interest was again prohibited 'as a vice most odious and detestable,' and 'contrary to the word of God.' But in despite of this denunciation, the ordinary rate of interest, instead of being reduced immediately, rose to *14 per cent.*; and continued at this rate, until 1571, when an act was passed (13th Eliz. cap. 8), repealing the act of Edward VI. and reviving the act of Henry VIII., allowing *10 per cent.* interest. In the preamble to this act, it is stated 'that the prohibiting act of Edward VI. had not done so much good as was hoped for; but that rather the vice of usury hath much more exceedingly abounded, to the utter undoing of many gentlemen, merchants, occupiers, and others, to the importable hurt of the commonwealth.' This salutary statute was opposed, even by those who, it might have been expected, would have been among the first to emancipate themselves from the prejudices of the age, with all the violence of ignorant superstition. Dr. John Wilson, a man famous in his day, and celebrated for the extent and solidity of his learning, stated in the House of Commons that 'it was not the amount of the interest taken that constituted the crime, but that all lending for any gain, be it ever so little, was wickedness before God and man, and a damnable deed in itself, and that there was no mean in this vice any more than in murder or theft!' In order to quiet the consciences of the bench of bishops, a clause was inserted, declaring all usury to have been forbidden by the law of God, and to be in its nature sinful and detestable! When first enacted this statute was limited to a period of five years, but 'forasmuch as it was by proof and experience found to be very necessary and profitable for the commonwealth of this realm,' it was in the same reign made perpetual. (39th Eliz. cap. 18.)

In the 21st of James I. the legal rate

of interest was reduced to *8 per cent.* by an act to continue for seven years only, but which was made perpetual in the succeeding reign (3d Car. I. cap. 4.) During the Commonwealth the legal rate of interest was reduced to *6 per cent.*, a reduction which was soon after confirmed by the act of 12th Car. II. And finally, in the reign of Queen Anne, a statute (12th Anne, cap. 16) was framed, reducing the rate of interest to *5 per cent.*, at which it now stands.

No complaint was so prevalent during the reigns of the princes of the house of Tudor, as that of the increase of sheep-farming, and the decay of tillage and population. Soon after the accession of Henry VII. it was enacted, in order to arrest the progress of the supposed evil, that the owner of every house let to farm, with twenty acres of land in tillage, should be obliged under penalty of the king's incurring a moiety of the profits of such lands, to keep up such houses and buildings upon them as were required for keeping them in tillage. This law was commended by Sir Thomas More and Lord Bacon,—a striking proof, if any such were required, how little the principles of public economy were then understood. Statutes to the same effect were passed in the reigns of Henry VIII., Edward VI., Philip and Mary, and Elizabeth. They appear, however, to have had little influence. The current of circumstances could not be controlled; and lands continued to be enclosed and consolidated into larger farms, notwithstanding the denunciations of the clergy, the lamentations of patriots, and the prohibitions of the legislature.

Many attempts have been made, but seldom with much success, to explain the circumstances that led to this change in the mode of occupying land, and in the constitution of society. In point of fact, however, it was really nothing more than the necessary result of the breaking up of the feudal system. The modes in which the nobles could display their magnificence being no longer the same, money and not services came to be in demand. The foundations of the feudal system had been shaken in the reign of Edward IV., and most part of it was thrown down in that of Henry VII. The suppression of the practice of giving liveries, and of keeping large bodies of retainers constantly at command, took from the barons the principal motive

their estates. Instead of endeavouring to excel each other in the number and boldness of their retainers, their competition was diverted into less dangerous channels—in vying with each other in the sumptuousness of their houses and tables, and the splendour of their equipages. The rude magnificence in which they formerly lived needed, with the exception of supplies of wine and a few other articles, little that was not produced at home. But this simplicity no longer sufficed. The products of foreign countries became more and more the objects of desire. To acquire the means of supporting this increased expense, the landlords began to consolidate their properties, and to turn them to the best account; and as woollen-manufactures and wool were the only great articles produced in the country that met with a ready and advantageous sale abroad, the increasing demand for foreign commodities led to a corresponding increase in the demand for woollens and wool for exportation, and the consequent extension of the sheep husbandry. Had there been any other native commodity, that would have answered better as an article for sending abroad, it would have been raised in preference. But most of our home manufactures for exportation grew up by slow degrees; and during the reign of the Tudors woollen goods and raw materials were almost the only means of traffic. Hence the extension of sheep-farming so much complained of, and the impotence of all attempts to counteract it; and hence also the decline of that system, when the country began to be more copiously supplied with other exportable articles.

So inconsequential was the legislation in its proceedings during the reign of the Tudors, that at the very period it was passing acts prohibiting the extension of tillage, and limiting the size of farms and the number of sheep an individual might keep, (25 Hen. VIII. cap. 15, &c.) laws were actually enacted to prevent the slaughter of calves, and to increase the breed of neat cattle! (21 Hen. VIII. cap. 8, &c.) The exportation of corn was also prohibited, except when its price was ruinously low. This was evidently to destroy with the one hand what was raised up with the other. Wool was produced in preference to corn because it might be manufactured and exported, and was found, principally on that account, to be most profitable. Had the free ex-

portation of corn been allowed, its value relatively to wool would have risen, and the advantage on the side of the former would have been reduced; but by preventing its exportation the market was glutted with corn, and the unnatural depression of its value prevented the statutes for promoting its cultivation from having any effect. The increased price of corn towards the latter part of the reign of Elizabeth, and the greater freedom of exportation that was then allowed, gave the first effectual encouragement to tillage. But we need not wonder at the contradictory policy of our ancestors. Even now it is far from being universally acknowledged that the self-interest of the producers will always lead them to employ themselves in the mode that is most advantageous; and that all legislative enactments, intended to force capital and industry into channels in which they would not naturally flow, are either useless or pernicious.

The first laws and regulations as to the support of the poor were enacted under the princes of the Tudor line. No legislative notice seems to have been taken of the poor till 1376; and their existence as a separate class was not recognized previously to the fourteenth century. The truth is, how paradoxical soever the assertion may at first appear, that we owe the origin of the poor to the overthrow of the feudal system, and the establishment of liberty and independence. For several centuries after the conquest, the mass of the inhabitants of England were in a state of predial slavery. They could not leave the lands to which they were attached; they were the property of their owners, who, though they were prohibited from killing them, might beat them with impunity. During this state of society, the poor, in the modern acceptation of the term, were necessarily unknown; for, being slaves, they could look to none but their lords for support. But after towns began to be enfranchised, and to acquire privileges, and manufactures were established, a class of independent labourers was formed; the maimed, impotent, and unemployed portion of which, having no one on whom they could fall back, became a burden on the public, and were designated *the poor*. The sudden breaking up of the feudal system under Henry VII., and the practice then so generally followed by the lords of sub-

stituting money-rents in the place of services, and of dismissing their retainers, added greatly to the numbers of the poor; these were still further augmented in the reign of Henry VIII., by the dissolution of the monasteries, which had been pretty generally in the habit of contributing largely to the support of the dependent portion of the community. Some idea may be formed of the influence of this sudden change in the condition of society from an act of Henry VIII., (3 Hen. VIII. cap. 15,) in which it is stated that 60,000 persons were then imprisoned for debts and crimes! The necessity of endeavouring, if possible, to put a stop to such disorders, led, in the reigns of Henry VII. and his successors, to different legislative measures with respect to the poor. At first, an attempt was made to provide for their wants by voluntary contributions; but this having failed, a compulsory provision was resorted to, which was perfected and completed by the famous act of the 43d of Elizabeth, which continues, to this day, the foundation of the entire fabric of the poor-laws. This is not the place to enter into any detailed examination as to the policy of this system. But it appears to us, (that is, to the writer of this article, who alone is responsible for this opinion,) after allowing liberally for its defects, to have been, on the whole, singularly advantageous. It improved the character of the poor by giving them a security against want; at the same time that it prompted the landlords, and other persons of influence, from a regard to their own interests, to take measures for checking the growth of cottages, the subdivision of farms, and the too rapid increase of the labouring class. Its influence on manufactures and commerce has, we think, been most salutary. By providing a resource for the poor in periods of national distress, or when the usual channels of employment were obstructed, it has preserved the public tranquillity unimpaired;—a condition indispensable to the full development of the national resources, and to the continued growth of capital.

We must here close these brief and desultory notices of the rise of commerce and industry in England, and of their progress down to the accession of the house of Stuart. The foundation of the colonies in America and the West Indies, and the opening of the trade to

India, gave a wonderful stimulus to industry, and excited a spirit of bold and daring enterprise, which was further promoted by various circumstances, some of which, though less striking, were not, perhaps, less powerful. But as any attempt to trace the progress of commerce in England since 1600 would require an amplitude of detail quite inconsistent with the objects and limits of the present treatise, it must be deferred to some other opportunity.

The reader will observe, that we have passed very cursorily over the important subjects of the corn trade and the colonies. This was not done through inadvertence, but intentionally. The object of this treatise was to unfold principles applicable to all sorts of commercial transactions, without entering into discussions relative only to single branches. Both the subjects now alluded to are of such interest and importance, and involve so many distinctive and peculiar details, that each would require for its proper discussion a treatise not much less than this. We flatter ourselves that the *principles* according to which the trade in corn, and the intercourse with colonial possessions ought to be conducted, will be found sufficiently explained in these pages. But those who wish to go farther, who desire to be informed as to the peculiar regulations under which the corn and colony trades have been placed, and the reasonings of those by whom these regulations have been impugned and defended, must resort to publications treating exclusively of such subjects.

We intended at one time to have added to this treatise tables of the principal coins, weights and measures made use of in this and other countries; but, on reflection, we considered it better that these should be collected in a separate treatise; not only because adequate space would thus be found for the proper treatment of the subject, but that any individual might have it in his power to obtain Tables of great practical utility, without their being tacked to anything else.

We cannot better conclude this treatise than in the words of Mr. Stevenson:—‘What a picture does modern commerce present of the boundless desires of man, and of the advancement he makes in intellect, knowledge, and power, when stimulated by these de-

sires! Things familiar to use cease to attract our surprise and investigation; otherwise we should be struck with the fact, that the lowest and poorest peasant's breakfast-table is supplied from countries lying in the remotest parts of the world, of which Greece and Rome, in the plenitude of their power and knowledge, were totally ignorant. But the benefits which mankind derives from commerce are not confined to the acquisition of a greater share and variety of the comforts, luxuries, or even the necessities of life. Commerce has repaid the benefits it has received from geography: it has opened new sources of industry; of this the cotton manufactures of Great Britain are a signal illustration and proof:—it has contributed to preserve the health of the human race, by the introduction of the

most valuable drugs employed in medicine. It has removed ignorance and national prejudices, and tended most materially to the diffusion of political and religious knowledge. The natural philosopher knows, that whatever affects, in the smallest degree, the remotest body in the universe, acts, though to us in an imperceptible manner, on every other body. So commerce acts; but its action is not momentary; its impulses, once begun, continue with augmented force. And it appears to us no absurd or extravagant expectation, that, through its means, either directly, or by enlarging the views and desires of man, the civilization, knowledge, freedom and happiness of Europe will ultimately be spread over the whole globe.'

J. R. M'CULLOCH.

ON PROBABILITY.

1. In considering any future event, we are generally unable to determine whether or not it will happen; yet, we can often conjecture the number of cases which are possible, and of these how many favour the production of the event in question. In our uncertainty, we say that there is a chance it will happen; and thus our idea of chance arises from our wanting data which might enable us to decide whether or not the event will take place. If, for instance, a bag contain one white and two black balls, it is impossible to decide whether or not a black ball will be drawn in one trial; but we know that there are three cases possible, of which two favour the appearance of a black ball and one the contrary, and of these, we have no reason to think one more probable than another.

2. The operations of the mind are of two kinds; the one consists in acquiring data, the other consists in making deductions from data previously acquired. Our data are only probable; our deductions from these are also probable. The subject, therefore, of this treatise is intimately connected with every science, and, whether on account of its numerous and useful applications, or of the exact reasoning by which its principles are established, carries with it the highest degree of interest. In the sequel we shall explain the method of applying it to the calculation of life annuities, a few tables of which will be subjoined.

3. To avoid circumlocution, those cases which embrace the production of a particular event are called the favourable cases, and those which do not, the unfavourable cases. It is usual to apply the word belief to the past, and the word expectation to the future; but the theory of probability is in all respects the same, whether it be applied to past or to future events. When we endeavour to discover whether an event $\left\{ \begin{smallmatrix} \text{did} \\ \text{will} \end{smallmatrix} \right\}$ happen, we review the different cases which are possible. If the favourable cases are more numerous than the unfavourable, we $\left\{ \begin{smallmatrix} \text{believe} \\ \text{expect} \end{smallmatrix} \right\}$ that the event $\left\{ \begin{smallmatrix} \text{did} \\ \text{will} \end{smallmatrix} \right\}$ take place. The words believe and expect, and those to which they correspond, are placed between brackets, in order to show that the reasoning is the same in both cases. Let us suppose that a bag contains one black and two white balls: if I am asked whether a white ball will be drawn, or if, a ball being already drawn, but concealed from my view, I am asked whether a white ball has been drawn, it is clear that the judgment formed in both cases will be the same. I answer in both cases, that it is more probable that the ball which is drawn is white than black, yet if the ball be already drawn, but concealed from my view, the event is already determined and certain. We perceive, therefore, that the estimation of probability has no necessary reference to actual occurrence, but only to the means of judging which a given individual possesses.

4. We have used the word probability before giving its definition, because its popular meaning has hitherto sufficed for our purpose. We now give its mathematical definition, which is this: the probability of any event is the ratio of the favourable cases to all the possible cases which, in our judgment, are similarly circumstanced with regard to their happening or failing. Thus, if a bag contain one white and two black balls, the probability of drawing a white ball is $\frac{1}{3}$; the probability of throwing ace with a die at the first

throw is $\frac{1}{6}$; or, in common language, we should say of the first of these events that the odds are 2 : 1 against it, and of the second 5 : 1.

Generally, if $m + n$ is the whole number of cases, and if m is the number of cases which are favourable to the event P , $m : n$ are the odds n unfavourable

in favour of the event P , and the probability of the event P is $\frac{m}{m + n}$

5. Simpson has defined the probability of an event to be the ratio of the chances by which the event in question may happen to all the chances by which it may happen or fail. In this definition the word chance must be understood a way of happening; we, however, frequently say, "I left such a thing to chance," or, "such a thing is entirely chance;" these expressions, which are in some measure sanctioned by common use, are intended to signify that we are ignorant of the causes which produce the event in question, or that we do not influence its occurrence.

6. When there are many events, such that one must, and only one can happen on any given trial, we shall call them conflicting events; and it is evident, from the definition of probability, that the probability that either of two conflicting events will happen on any single trial is equal to the sum of their respective probabilities; it is also evident that the sum of the probabilities of all the conflicting events which can happen on any single trial is expressed by unity; for, by the supposition, one of them must happen.

Our { belief
expectation } is founded upon the probability of the event under consideration. It will often happen that our judgment is influenced by circumstances of too complicated or delicate a nature to be submitted to numerical calculation; and the conclusions with which this science furnishes us are true only within the limits of the errors which arise from neglecting these considerations. We experience the same difficulty in applying to physical phenomena the theories deduced from abstract principles of measure and motion. When all the cases which are possible, are favourable, the event is certain and belief becomes certitude, or knowledge. *Certainty*, which is the greatest probability, is therefore represented by unity; it must be distinguished from the highest degree of belief which we have called *certitude*; they are often confounded with each other, while they differ in the same manner as probability and belief differ. In fact, we want two words for every stage as much as for unity, the one to express the ratio of the favourable to all the cases possible, the other denoting the opinion consequent on the perception of that ratio.

7. If a bag contain no white and ten black balls, the probability of drawing a white ball is $\frac{0}{10}$, or, zero; if, on the other hand, the bag contain 10 white and no black balls, the probability of drawing a white ball is $\frac{10}{10}$, or unity, and whatever be the number of black balls, the probability of drawing a white ball must be some fraction between 0 and 1, which are its limits. When the fraction which expresses the probability of an event is little different from unity, we say the event is very probable, or nearly certain; when it is but little greater than $\frac{1}{2}$, we say it is probable; when $\frac{1}{2}$, doubtful; when rather less than $\frac{1}{2}$, improbable; when much less than $\frac{1}{2}$, very improbable; and when zero, impossible.

8. We habitually assent to propositions which have in their favour a probability less than unity: this degree of probability is vulgarly called moral certainty, an expression which is at variance with every analogy of language. The state of mind of a man who is aware of unfavourable events

which are possible, but who disregards them by reason of their reputed improbability, is perhaps what is meant. Some philosophers have endeavoured to fix the numerical fraction to which this moral certainty is equal by observing the risks of which men are in general careless. Buffon chose the fraction $\frac{9999}{10000}$; Condorcet estimated it in a different manner, and of course obtained a very different result. Indeed it is obvious that this fraction is arbitrary, and we shall therefore not enter more minutely into this question. There may, perhaps, be a practical utility for each man to determine the risk his own temperament enables him to disregard, in order to obtain a standard with which to compare the results of occasional theorems: without some such comparison they might fail in their abstract numerical form to determine his judgment.

9. We have said that probability does not exist in the abstract, but always refers to the knowledge possessed by some particular individual. Let us suppose that a bag contains one white and two black balls, and that A having drawn a white ball holds it so that he can see what colour it is, but so that B cannot. Here three cases appear possible to B, of which two favour the drawing a black ball; the probability therefore that it is a black ball to B is $\frac{2}{3}$, while the probability to A that it is a white ball, is unity, or certainty. Again: suppose a bag contain one white, one black, and one red ball; A, having drawn a white ball, whispers to B that the ball which is drawn is not red. Three cases appear equally possible to C, of which one only favours the drawing a white ball; C therefore estimates the probability at $\frac{1}{3}$, while B (if he believes the information given him by A) has only two alternatives to choose between: he therefore estimates the probability at $\frac{1}{2}$. Even if B do not implicitly believe the information given him by A, it is clear that his judgment will be formed on grounds different from those on which C decides.

10. It is thus that the same fact related before a numerous audience obtains from different individuals different degrees of belief: this is chiefly to be attributed to the different degrees of knowledge possessed by different individuals of circumstances which bear on the fact in question. An inhabitant of the torrid zone has difficulty in believing that water freezes; and the recovery of a sick person may appear probable to one unacquainted with medicine, while the skilful physician despairs of effecting a cure.

11. It follows from the definition of probability, that to determine the probability of any event, it is only necessary to enumerate the cases which are favourable and those which are unfavourable to its production, in order to form the fraction which expresses its probability. In order that this may be well understood, we shall begin with some very simple examples, and for these it will be necessary, at first, to have recourse to games of chance, in which the whole number of possible occurrences is most readily ascertained.

Ex. 1. Suppose a piece of money is thrown into the air, and that the probability of its falling on the obverse side twice successively is required: here the following cases present themselves.

Case 1. The obverse both times.

2. The obverse the first time and the reverse the second.

3. The reverse the first time and the obverse the second.

4. The reverse both times.

These are the only cases possible; and if we are ignorant of the existence of any cause tending to make the piece fall on one side rather than on the other, they are all similarly circumstanced, and therefore the probability of each case is $\frac{1}{4}$.

Since every one of the six numbers on one of the dice may combine with every one of the six on the other, the number of throws on the dice is 36.

The number 7 may be made up of $\left\{ \begin{array}{l} 1 \text{ and } 6 \\ \text{or } 3 \text{ and } 4 \\ \text{or } 2 \text{ and } 5 \end{array} \right\}$,

and as these numbers may be on the one die or the other, there are in all six ways which favour the number 7, and therefore the probability required is $\frac{6}{36}$ or $\frac{1}{6}$.

Ex. 4. A, the dealer in a party at whist, desires to know the probability of his partner holding a given card. The number of cards which are held by the other three players is 39; therefore the probability that the card in question is any given card in A's partner's hand is $\frac{1}{39}$, but it may be any one of the 13 cards which A's partner holds, therefore the probability is $\frac{1}{39} = \frac{1}{3}$. Or thus, there are three cases possible: either the card is in the hand of A's partner, or of one of the other two players; and as these three cases are similarly circumstanced, the probability of either of them is $\frac{1}{3}$, the odds against it being of course 2 : 1.

A desires to know the probability of his partner holding 2 given cards.

The number of combinations of 39 things taken two and two together is $\frac{39 \times 38}{1.2}$, therefore the probability that these two cards are any given two

cards in A's partner's hand is $\frac{1}{\frac{39 \times 38}{1.2}} = \frac{1}{39 \times 19}$; but they may be any

two cards in A's partner's hand; therefore, since the number of combinations of 13 cards taken two and two together, is $\frac{13 \times 12}{1.2} = 13 \times 6$,

the probability required is $\frac{13 \times 6}{39 \times 19} = \frac{2}{19}$, the odds against are therefore 17 : 2.

Similarly, the probability that he holds any three given cards, is $\frac{22}{703}$; the odds against are, therefore, 681 : 22.

Ex. 5. Required the probability, that in a deal at whist each player holds an honour.

The number of permutations of 52 cards taken all together is $52 \times 51 \dots \times 3 \times 2 \times 1$, and the number of permutations of 13 cards taken all together is $13 \times 12 \times 11 \dots \times 3 \times 2 \times 1$, therefore the number of different deals is

$$\frac{52 \times 51 \times 50 \dots \times 3 \times 2 \times 1}{(13 \times 12 \times 11 \dots \times 1)^4},$$

because the 13 cards may be permuted in each player's hand separately, without altering his hand.

The number of permutations of 48 cards taken all together is $48 \times 47 \times 46 \dots \times 3 \times 2 \times 1$, therefore the number of different ways in which 48 cards can be dealt to four persons is

$$\frac{48 \times 47 \times 46 \dots \times 3 \times 2 \times 1}{(12 \times 11 \times 10 \dots \times 1)^4}.$$

Let A, B, C, D be the hands dealt to each player out of 48 cards,

a, b, c, d , the four honours.

It is evident that A, B, C, D may be combined with a, b, c, d in as many different ways as a, b, c, d can be permuted, that is, in $4 \times 3 \times 2 \times 1$, or 24 different ways; therefore the probability that

$$\begin{aligned} \text{each hand has an honour} &= \frac{48 \times 47 \times 46 \dots 3 \times 2 \times 1}{(12 \times 11 \times 10 \dots 3 \times 2 \times 1)^4} \times 24. \\ &= \frac{13^4}{52 \times 51 \times 50 \times 49} \times 24 = \frac{2197}{20825}, \quad \text{Odds against, About } 17:2 \end{aligned}$$

So it may be found that the probability that

$$\begin{aligned} \left\{ \begin{array}{l} \text{one hand has the four} \\ \text{honours} \end{array} \right\} &= \frac{13 \times 13 \times 11 \times 10}{52 \times 51 \times 50 \times 49} \times 4 = \frac{220}{20825}, \quad 94:1 \\ \left\{ \begin{array}{l} \text{two hands have each} \\ \text{two honours} \end{array} \right\} &= \frac{13 \times 12 \times 13 \times 12}{52 \times 51 \times 50 \times 49} \times 6 \times 6 = \frac{2808}{20825}, \quad 13:2 \\ \left\{ \begin{array}{l} \text{one hand has two ho-} \\ \text{nours and two hands one} \end{array} \right\} &= \frac{13 \times 13 \times 13 \times 12}{52 \times 51 \times 50 \times 49} \times 12 \times 12 = \frac{12168}{20825}, \quad 5:7 \\ \left\{ \begin{array}{l} \text{one hand has three ho-} \\ \text{nours and one hand one} \end{array} \right\} &= \frac{13 \times 13 \times 12 \times 11}{52 \times 51 \times 50 \times 49} \times 12 \times 4 = \frac{3432}{20825}, \quad 5:1 \end{aligned}$$

The number of deals essentially different is

$$\frac{52 \times 51 \times 50 \dots \times 3 \times 2 \times 1}{(13 \times 12 \times 11 \dots 3 \times 2 \times 1)^4} \times \frac{1}{24}.$$

This number, of which the logarithm is 27.34935, is so great, that if 1,000,000,000 persons, about the population of the earth, were to deal the cards incessantly day and night for 100,000,000 years, at the rate of a deal by each person a minute, and even if each of these deals were essentially different, they would not have exhausted a $\frac{1}{1000000}$ th part of the number of essentially different ways in which 52 cards can be distributed equally between four players.

12. Let a bag contain 10 slips of paper, each having the name of a different individual written upon it, and suppose that the individual whose name is drawn is to receive 10*l*.

In estimating the value of the expectation of these individuals it is evident that the sum of the values of all their expectations is equal to 10*l*, the sum which one of them must receive, for if they each sold their chance of winning the 10*l*. to another person, this person would be sure of receiving 10*l*.; and since their expectations are equal, for their chances of winning are the same, if e be the expectation of one of them

$$10e = 10, \quad e = 1$$

that is, the expectation of each is worth 1*l*. It is evident, also, that if there were $m + n$ slips of paper, each having the name of a different individual written upon it, and if the individual whose name was drawn should receive a pounds, the value of the expectation of each individual would be

$\frac{a}{m+n}$. The value of the expectation of two individuals is the sum of the

values of their separate expectations, and is, therefore, $\frac{2a}{m+n}$; of three individuals $\frac{3a}{m+n}$; and of m individuals is $\frac{ma}{m+n}$; but the expectation of m individuals must be the same as the expectation of one individual holding m tickets; therefore, the expectation of an individual holding m tickets is $\frac{ma}{m+n}$, or $\frac{m}{m+n} \times a$, but $\frac{m}{m+n}$ is the probability of this individual winning; therefore, generally, the value of the expectation of any individual with respect to any particular event is the product of the probability that the event will take place by the gain that will accrue to the individual if it does take place,

Ex. 6. Suppose the probability that a horse wins a race is p : A gives B £ a : what odds should B bet A that the horse wins, in order that, on the whole, their situation may be the same? Let x : 1 be the odds required; then the expectation of B = $a + p - (1 - p)x$: the expectation of A = $(1 - p)x - a - p$; in order that they may be in the same situation, $a + p - (1 - p)x = (1 - p)x - (a + p)$; $x = \frac{a + p}{1 - p}$.

13. All wagers are founded upon this principle, of multiplying the probability of the event by the contingent gain. Generally, however, one party does not pay down to the other a sum of money in order to receive another sum of money if a certain event takes place; but A engages to pay B a certain sum if the event takes place, and B engages to pay A a certain sum if it does not take place. Let a be the sum which A is to pay B, on the event of which the probability is p ; and b the sum to be paid by B to A, if that happens of which the probability is q .

The expectation of A is equal to $bq - ap$.

The expectation of B is equal to $ap - bq$.

In order that the wager may be fair, the expectations of A and B must be equal.

$$bq - ap = ap - bq \quad ap = bq$$

$$\frac{a}{b} = \frac{q}{p}, \frac{b}{a+b} = p, \frac{a}{a+b} = q, \text{ since } p + q = 1: a \text{ and } b \text{ are the odds.}$$

Since the sum of the probabilities of any number of conflicting events is equal to unity, we have an equation of condition between the odds; and whenever they do not satisfy this equation, it is possible to bet with the certainty of gain.

Ex. 7. Suppose three horses, A, B, C, are entered for a race, and that I bet £12, to £5, against A; £11, to £6, against B; and £10, to £7, against C.

If A wins, I gain £6. + 7 - 12 = £1.

B wins, I gain £5. + 7 - 11 = £1.

C wins, I gain £5. + 6 - 10 = £1.

Thus I gain £1. whichever horse wins, from having taken the field against each horse.

Here the odds quoted in favour of $\left\{ \begin{array}{l} \text{A are } 5 : 12 \\ \text{B ,, } 6 : 11 \\ \text{C ,, } 7 : 10 \end{array} \right\}$ the corresponding probability would be $\left\{ \begin{array}{l} \frac{5}{17} \text{ in favour of A.} \\ \frac{6}{17} \text{ . . . B.} \\ \frac{7}{17} \text{ . . . C.} \end{array} \right\}$

$$\frac{5}{17} + \frac{6}{17} + \frac{7}{17} = \frac{18}{17} = 1 + \frac{1}{17}.$$

The odds are often, as in this case, far from satisfying the equation of condition to which we have alluded.

The odds quoted just before the race upon the horses entered for the Oaks Stakes,* May, 1828, were so enormous, that the corresponding probability

of one of the first seven favourites winning, was $1 + \frac{31}{336}$, exclusive of the winner and six others which started.

14. Although it is easy in similar cases to see whether or not to *back the field*, it is not possible to determine the proportions which should be betted against each event in order that the advantage may be the greatest, unless the probabilities of each are known; and it may be observed, that the odds offered and taken will sometimes depend upon the incertitude of the better, whether or not he will receive the amount of his wager in case of a favourable issue. This chance enters as legitimately into the estimation of the odds as any other, though it may be more difficult to estimate its influence. It may also happen that the odds will be affected by those who, having almost secured a certain advantage in the manner we have just described, will prefer to diminish that advantage by offering more than the real odds against the events which yet remain out of their list, rather than leave any contingency unprovided against. But this last consideration verges on a branch of the subject which we shall afterwards treat more in detail: sufficient reason has been given why, practically, the odds vary so much from the result of a theory, which has not estimated these causes of discrepancy.

15. Let P_1, Q_1 represent two conflicting events.

P_2, Q_2 any other two conflicting events.

and let $\left. \begin{matrix} m_1 \\ m_2 \\ n_1 \\ n_2 \end{matrix} \right\}$

be the number of cases favourable to the event

$\left\{ \begin{matrix} P_1 \\ P_2 \\ Q_1 \\ Q_2 \end{matrix} \right.$

P_1 cannot happen with Q_1 , nor P_2 with Q_2 : the whole number of cases possible, therefore, is $(m_1 + n_1)(m_2 + n_2)$. Of these

$\left\{ \begin{matrix} m_1 m_2 \\ m_1 n_2 \\ n_1 m_2 \\ n_1 n_2 \end{matrix} \right\}$

are favourable to the pro-
duction of the event

$\left\{ \begin{matrix} (P_1 P_2) \\ (P_1 Q_2) \\ (Q_1 P_2) \\ (Q_1 Q_2) \end{matrix} \right\}$

that is, of the events $\left\{ \begin{matrix} P_1, P_2 \\ P_1, Q_2 \\ Q_1, P_2 \\ Q_1, Q_2 \end{matrix} \right.$

simultaneously, and therefore by previous definition

$$\left\{ \begin{matrix} \frac{m_1 m_2}{(m_1 + n_1)(m_2 + n_2)} \\ \frac{m_1 n_2}{(m_1 + n_1)(m_2 + n_2)} \\ \frac{n_1 m_2}{(m_1 + n_1)(m_2 + n_2)} \\ \frac{n_1 n_2}{(m_1 + n_1)(m_2 + n_2)} \end{matrix} \right\} \text{ is the probability of the event } \left\{ \begin{matrix} (P_1, P_2) \\ (P_1, Q_2) \\ (Q_1, P_2) \\ (Q_1, Q_2) \end{matrix} \right.$$

* Betting for the Oaks, Morning Chronicle, May 24, 1828.

5 to 2 against Ridicule.
5 . 2 .. Zoë.
4 . 1 .. Rosalie.
7 . 1 .. Trampolina.
14 . 1 .. Delfa.

14 to 1 against L'Estelle.
15 . 1 .. Ruby.
25 . 1 .. Turquoise, who won.
6 others started.

$\frac{m_1}{m_1 + n_1}$ } is the probability of the event $\left\{ \begin{matrix} P_1 \\ P_2 \end{matrix} \right\}$ considered by itself,

and as P_1, P_2 may represent any independent events whatever, we conclude that the probability of the concurrence of any two independent events is equal to the product of the probabilities of each considered separately.

It is easy to extend the same theorem to any number of independent events: for we may consider the event (P_1, P_2) as one event of which the

probability is $\frac{m_1 m_2}{(m_1 + n_1)(m_2 + n_2)}$, and if $\frac{m_3}{m_3 + n_3}$ be the probability of any other independent event P_3 , the probability of the concurrence of (P_1, P_2) and

P_3 or (P_1, P_2, P_3) is equal to $\frac{m_1 m_2}{(m_1 + n_1)(m_2 + n_2)} \times \frac{m_3}{m_3 + n_3}$,

or $\frac{m_1 m_2 m_3}{(m_1 + n_1)(m_2 + n_2)(m_3 + n_3)}$; but $\frac{m_1}{m_1 + n_1}$, $\frac{m_2}{m_2 + n_2}$, and $\frac{m_3}{m_3 + n_3}$, are

the probabilities of the events P_1, P_2, P_3 , considered separately.

The same reasoning may be extended to any number of independent events, and hence this general and important theorem: the probability of the concurrence of any number of independent events is equal to the product of the probabilities of each considered separately. Before we proceed farther, it may be well to illustrate this by an example.

Ex. 8. Let us assume p_1 to be the veracity of any witness A_1 , or the probability that A_1 tells the truth; p_2 the veracity of any other witness A_2 . A_2 asserts that A_1 has asserted that a certain event took place; what is the probability that it did take place?

The event took place, if both A_1 and A_2 tell the truth; the probability of this is $p_1 \times p_2$.

It also took place if both A_1 and A_2 lie, that is, if A_1 said it did not take place, and if A_2 says that A_1 said it did take place: the probability of this is $(1 - p_1)(1 - p_2)$; and the probability that the event did take place, is $p_1 p_2 + (1 - p_1)(1 - p_2)$, or $1 - p_1 - p_2 + 2 p_1 p_2$.

Suppose, for instance, p_1 and p_2 were equal to $\frac{9}{10}$ ths, the probability that the event took place which A_1 , on the authority of A_2 , asserts to have taken place, would be $\frac{82}{100}$ ths, a probability which is considerably less than $\frac{9}{10}$ ths.

The same might be extended to any number of testimonies; and it is thus that events, probable in the first instance, by passing through many relaters, may at last become extremely improbable. Laplace compares this diminution of probability to the diminution of light in passing through a succession of transparent mediums: the analogy does not strike us as being very forcible.

16. Since the odds are inversely as the probabilities of the events, whenever the odds in favour of two independent events are known, the odds that they will both happen may be found.

Ex. 9. In May, 1828, the odds were 3 to 1 against Rapid Rhone winning the Gold Cup, and 6 to 1 against Bessy Bedlam winning the St. Leger. According to these odds, the probability of Rapid Rhone winning the Gold Cup is $\frac{1}{4}$, and of Bessy Bedlam winning the St. Leger is $\frac{1}{7}$. Therefore, the probability of both these events taking place is $\frac{1}{28}$, and the odds against it 27 to 1, or about 1000 to 37. The odds were given at 1000 to 60.

It may be remarked that if the *same* horse as Rapid Rhone were to run in both races, and if the probability of his winning the first race were $\frac{1}{2}$, and of his winning the second $\frac{1}{3}$; the probability of his winning both is not $\frac{1}{6}$, but rather more. This very important distinction will be more fully explained in treating of probabilities *à posteriori*.

17. Let P_n, Q_n be any two conflicting events, of which the probabilities are p_n, q_n .

The probability of the concurrence of all the events $P_1, P_2, \dots P_n$, is $p_1 \times p_2 \dots p_n$, and the probability of any other event is that term in the product

$$(p + q_1) (p_2 + q_2) \dots (p_n + q_n);$$

in which the indices of p and q are the same as those of P and Q in the composite event which is considered.

If we consider repeated trials of the same event, so that $P_1, P_2, \dots P_n$ are all the same, $(p_1 + q_1) (p_2 + q_2) \dots (p_n + q_n)$ becomes $(p + q)^n$, and the probability of any event composed of a times P and b times Q in any given order is $p^a q^b$, the probability of having a times P and b times Q , without any regard to the order in which they occur, is the sum of the terms which are equal to $p^a q^b$ in the development of $(p + q)^n$, or, what is the same thing, the term which has $p^a q^b$ for its argument in the expansion of $(p + q)^n$.

By the binomial theorem, this term is $\frac{n \cdot (n-1) \dots \dots \dots 1}{1 \cdot 2 \cdot 3 \dots a \dots 1 \cdot 2 \cdot 3 \dots b} \times p^a q^b$.

Ex. 10. Thus, if n shillings are thrown into the air, in order to find what is the probability of any particular combination, it is only necessary to take

the corresponding term in the development of $\left\{\frac{1}{2} + \frac{1}{2}\right\}^n$.

Suppose there are five shillings

$$\left\{\frac{1}{2} + \frac{1}{2}\right\}^5 = \left(\frac{1}{2}\right)^5 + 5 \cdot \left(\frac{1}{2}\right)^4 + \frac{5 \cdot 4}{1 \cdot 2} \left(\frac{1}{2}\right)^3 + \frac{5 \cdot 4}{1 \cdot 2} \left(\frac{1}{2}\right)^2 + 5 \cdot \left(\frac{1}{2}\right) + \left(\frac{1}{2}\right)^5.$$

The probability that they will all fall heads = $\left(\frac{1}{2}\right)^5$

4 heads and 1 tail = $5 \times \left(\frac{1}{2}\right)^5$

3 heads and 2 tails = $10 \times \left(\frac{1}{2}\right)^5$

2 heads and 3 tails = $10 \times \left(\frac{1}{2}\right)^5$

1 head and 4 tails = $5 \times \left(\frac{1}{2}\right)^5$

5 tails = $\left(\frac{1}{2}\right)^5$

18. The same theorem may be extended to any number of conflicting events, so that if P, Q, R, S represent any conflicting events of which the probabilities are p, q, r, s , respectively, the probability of the event which is composed of a times P, b times Q, c times R, d times S , &c. in $a + b + c + d$ repeated trials is the term in the expansion of $(p + q + r + s)^{a+b+c+d}$, which has $p^a q^b r^c s^d$ for its argument; by the multinomial theorem this term is

$$\frac{(a + b + c + d) (a + b + c + d - 1) \dots \dots 3 \cdot 2 \cdot 1}{1 \cdot 2 \cdot 3 \dots a \cdot 1 \cdot 2 \cdot 3 \dots b \cdot 1 \cdot 2 \cdot 3 \dots c \cdot 1 \cdot 2 \cdot 3 \dots d} p^a q^b r^c s^d.$$

Ex. 11. Let a jury be composed of n jurymen, and let p be the probability that each jurymen separately will give a right decision, q the probability that he will give a wrong decision. The probability of a unanimous verdict, that is, that they all will voluntarily give a wrong or all a right decision, is $\frac{p^n + q^n}{(p+q)^n}$:

if $p = \frac{9}{10}$, $q = \frac{1}{10}$ and $n = 12$, this is equal to $\frac{282429536482}{1000000000000}$, or about $\frac{1}{35}$.

This probability must not be confounded with the probability, after an unanimous decision has been given, that it is a correct one, which is a very different question.

Ex. 12. Let A and B be two gamesters, and let p be the probability of A's winning a game, and q the probability of B's winning a game; required the probability of A's winning m games out of $m+n$, the set being supposed to finish as soon as A has won m games.

The probability of A's winning the first m games running, is p^m . The probability of A's winning m games out of $m+1$, is $(m+1)p^mq$. The probability of A's winning the first m games, and B the $(m+1)^{th}$ out of $m+1$ games, is p^mq ; therefore, the probability of A's winning the set in exactly $m+1$ games is $(m+1)p^mq - p^mq$, or $(m+1-1)p^mq = mp^mq$, and the probability of A's winning the set in not more than $m+1$ games is $p^m + mp^mq$.

The probability of A's winning m games out of $m+2$, in any order, is

$$\frac{(m+2) \cdot (m+1)}{1 \cdot 2} p^m q^2,$$

but the probability of A's winning m games in the first $m+1$ is $(m+1) \cdot p^m q$, and the probability of B's winning the $(m+2)^{th}$ game is q ; therefore, the probability of A's winning m games in the first $m+1$ out of $m+2$ games is $(m+1) \cdot p^m q^2$; and the probability of A's winning the set exactly in $m+2$ games is

$$\left\{ \frac{(m+2) \cdot (m+1)}{1 \cdot 2} - (m+1) \right\} p^m q^2 = \frac{m \cdot (m+1)}{1 \cdot 2} p^m q^2;$$

and the probability of A's winning the set in not more than $m+2$ games is

$$p^m + mp^mq + \frac{m \cdot (m+1)}{1 \cdot 2} p^m q^2.$$

The same reasoning may be applied to the general term: thus the probability that A will win m games out of $m+n$ in any order

$$= \frac{(m+n) \cdot (m+n-1) \cdot \dots \cdot 2 \cdot 1}{1 \cdot 2 \cdot \dots \cdot m \cdot 1 \cdot 2 \cdot \dots \cdot n} p^m \cdot q^n.$$

The probability that A will win m games out of $m+n-1$, and that B will win the $(m+n)^{th}$

$$= \frac{(m+n-1) \cdot (m+n-2) \cdot \dots \cdot 2 \cdot 1}{1 \cdot 2 \cdot \dots \cdot m \cdot 1 \cdot 2 \cdot \dots \cdot (n-1)} p^m \cdot q^n.$$

Therefore the probability that A will win m games in exactly $m+n$ games

$$\begin{aligned} &= \frac{(m+n-1) \cdot (m+n-2) \cdot \dots \cdot 2 \cdot 1}{1 \cdot 2 \cdot \dots \cdot m \cdot 1 \cdot 2 \cdot \dots \cdot (n-1)} \left\{ \frac{m+n}{n} - 1 \right\} p^m q^n \\ &= \frac{m \cdot (m+1) \cdot \dots \cdot (m+n-1)}{1 \cdot 2 \cdot \dots \cdot n} p^m q^n, \end{aligned}$$

and the probability of A's winning the set in not more than $m + n$ games will appear to be

$$p^m \left\{ 1 + m q + \frac{m \cdot (m+1)}{1 \cdot 2} q^2 \dots \frac{m \cdot (m+1) \cdot (m+2) \dots (m+n-1)}{1 \cdot 2 \cdot 3 \dots n} q^n \right\}.$$

If A, in order to win the set, must win m games before B wins n games, A must win m games out of $m + n - 1$, and the probability of this event is

$$p^m \left\{ 1 + m q + \frac{m \cdot (m+1)}{1 \cdot 2} q^2 \dots \frac{m \cdot (m+1) \cdot (m+2) \dots (m+n-2)}{1 \cdot 2 \cdot 3 \dots (n-1)} q^{n-1} \right\},$$

and the probability of B's winning n games out of $m + n - 1$ is

$$q^n \left\{ 1 + n p + \frac{n \cdot (n+1)}{1 \cdot 2} p^2 \dots \frac{n \cdot (n+1) \cdot (n+2) \dots (n+m-2)}{1 \cdot 2 \dots 3 \dots (m-1)} p^{m-1} \right\}.$$

The same result may be obtained from the following considerations. If the play be supposed to continue without end, the probability that A will gain a single game

$$= p + p q + p q^2 + \dots \infty = \frac{p}{1 - q}, \text{ or } 1,$$

and the probability that A will win any finite number of games as m will be represented by $\left(\frac{p}{1 - q} \right)^m$

$$= p^m \left\{ 1 + m q + \frac{m \cdot (m+1)}{1 \cdot 2} q^2 + \dots \infty \right\}.$$

This probability is made up of the partial probabilities that A will win m games in m exactly, in $m + 1$ exactly, &c. The probability that A will win m games in $m + x$ exactly must have $p^m \cdot q^x$ for its argument, and, therefore, since the above-written series contains all these partial probabilities, and no others, and consists solely of terms whose arguments are of the form $p^m \cdot q^x$, each of these partial probabilities will be rightly represented by the corresponding term in that series, for it can be exhibited in no other shape, having the arguments of all its terms of this necessary form. Therefore the probability that A will win m out of $m + n$ games consists of the first terms of that series up to that inclusively, whose argument is $p^m \cdot q^n$, the same as before obtained.

If A wants m games of being up, and B n games, and they agree to leave off playing, the stakes should be divided between them in the proportions of their probabilities.

This problem is celebrated in the history of the theory of probabilities, and was the first of any difficulty which was solved. It was proposed to Pascal by the Chev. de Méré, with some others relating to games with dice.

Ex. 13. A bag contains $n + 1$ balls which are marked by the numbers $0.1.2.3 \dots n$, a ball is drawn and afterwards replaced in the bag. Required the probability that after i drawings the sum of the numbers drawn is equal to s .

A little consideration will show that the probability required will be the coefficient of x^s in the expansion of $\left\{ \frac{x^0 + x^1 + x^2 \dots + x^n}{n + 1} \right\}^i$ because that

coefficient will be made up of all the different ways in which the different indexes of x can be combined in this developement, so as to equal the required index s .

$$x^0 + x^1 + x^2 \dots \dots + x^n = \frac{1 - x^{n+1}}{1 - x}$$

$$\{1 - x^{n+1}\}^i = 1 - i x^{n+1} + \frac{i \cdot (i-1)}{1 \cdot 2} x^{2(n+1)} - \frac{i \cdot (i-1) \cdot (i-2)}{1 \cdot 2 \cdot 3} x^{3(n+1)} + \&c.$$

$$\therefore \{1 - x\}^{-i} = 1 + i x + \frac{i \cdot (i+1)}{1 \cdot 2} x^2 + \frac{i \cdot (i+1) \cdot (i+2)}{1 \cdot 2 \cdot 3} x^3 + \&c.$$

The coefficient of x^s is obtained by multiplying the coefficient of the first term of the upper series by the coefficient of x^s in the lower, that of the second in the upper by that of x^{s-1} in the lower, &c. and

$$= \frac{i \cdot (i+1) \cdot (i+2) \dots (i+s-1)}{1 \cdot 2 \cdot 3 \dots s (n+1)^i} - i \frac{i \cdot (i+1) \cdot (i+2) \dots (i+s-n-2)}{1 \cdot 2 \cdot 3 \dots (s-n-1) (n+1)^i} \\ + \frac{i \cdot (i-1) \cdot i \cdot (i+1) \cdot (i+2) \dots (i+s-2n-3)}{1 \cdot 2 \cdot 1 \cdot 2 \cdot 3 \dots (s-2n-2)} (n+1)^i \&c.$$

This series is equivalent to

$$\frac{(s+1) \cdot (s+2) \dots (s+i-1)}{1 \cdot 2 \dots (i-1) (n+1)^i} - i \frac{(s-n) \cdot (s-n+1) \dots (s-n+i-2)}{1 \cdot 2 \dots (i-1) (n+1)^i} \\ + \frac{i \cdot (i-1)}{1 \cdot 2} \cdot \frac{(s-2n-1) \cdot (s-2n) \dots (s-2n+i-3)}{1 \cdot 2 \dots (i-1) (n+1)^i} \&c.$$

It is to be remarked, that all the terms of the development of $(1 - x^{n+1})^i$ in which x is involved to a higher power than s may be rejected, because we have no negative powers of x in the other factor $(1 - x)^{-i}$ by which to reduce them.

This serves to show how many terms of the resulting series are to be taken, for if l represent the rank of the last term, we must have $(l-1)(n+1) \leq s$. Therefore the series is to be continued only so long as $s - (l-1)(n+1)$ is positive. As a numerical example, we may take the problem already solved in page 4, to find the chance of throwing 7 with two dice. Dice have no side marked with 0, therefore, before the formula can be applied to this and similar cases, each face or ball must be supposed to import one less than is marked on it, which amounts to substituting in the formula $s-n$ for s . We shall, however, not substitute in the formula so altered, but deduce its value in the particular case, as we have done in the general one.

The probability required will be the coefficient of x^7 in

$$\left\{ \frac{x^1 + x^2 + x^3 + x^4 + x^5 + x^6}{6} \right\}^2 = \left\{ \frac{x - x^7}{6 \cdot (1 - x)} \right\}^2$$

$$= \frac{1}{36} (x^2 - 2x^3 + x^4) (1 + 2x + 3x^2 + 4x^3 + 5x^4 + 6x^5 + \&c.)$$

which is $\frac{6}{36} = \frac{1}{6}$ as before.

If we want the probability of throwing 10 with three dice, we must find the coefficient of x^{10} in

$$\left\{ \frac{x^1 + x^2 \dots + x^6}{6} \right\}^3 = \left\{ \frac{x - x^7}{6 \cdot (1 - x)} \right\}^3 \\ = \frac{1}{216} (x^3 - 3x^4 + \&c.) (1 + 3x + 6x^2 \dots + 36x^7 + \&c.)$$

which is $\frac{36-9}{216} = \frac{1}{8}$, the required probability.

19. If we give to s the different values 0, 1, 2, ... s , successively, the sum of all the $s+1$ resulting series will of course be the probability that the sum of the numbers drawn will not be greater than s . In the last example, if we collect the coefficients of all the terms to x^{10} inclusive, we shall find the probability of not throwing more than 10 with three dice. It appears to be

$$\frac{1+3+6+10+15+21+28+36-3-9}{216} = \frac{108}{216} = \frac{1}{2}.$$

This probability is the foundation of the game of *Passe dix*.

20. If, instead of thus giving to s values which are increased by unity at each step, we suppose that s may have any value whatever between 0 and s , the probability must be estimated according to the rules of continuously varying quantities. The result in that case will be found identical with that given by our series, if in it we suppose s and n both infinite. The series then becomes

$$\frac{1}{1.2 \dots (i-1)n} \left\{ \left(\frac{s}{n} \right)^{i-1} - i \left(\frac{s}{n} - 1 \right)^{i-1} + \frac{i \cdot (i-1)}{1.2} \left(\frac{s}{n} - 2 \right)^{i-2} - \&c. \right\},$$

and the sum of all these series will be found by integrating this expression between the limits 0 and s , which gives

$$\frac{1}{1.2 \dots i} \left\{ \left(\frac{s}{n} \right)^i - i \left(\frac{s}{n} - 1 \right)^i + \frac{i \cdot (i-1)}{1.2} \left(\frac{s}{n} - 2 \right)^i - \&c. \right\},$$

the last or i^{th} term here being the last in which $\frac{s}{n} - (i-1)$ is positive.

This taken between the proper limits will give the probability that the sum of the numbers drawn is contained between those limits.

21. Laplace applies this equation, *Théorie Anal. des Prob.* p. 257, to finding the probability that the sum of the inclinations of the orbits of the planets would be contained within given limits, if all inclinations were similarly circumstanced.

There are 10 planets besides the Earth, namely, Mercury, Venus, Mars, Pallas, Juno, Ceres, Vesta, Jupiter, Saturn, and Uranus; therefore, $i = 10$ and the sum of their inclinations to that of the Earth at the beginning of 1801 was $82^\circ 16' 36''$, therefore

$$\frac{s}{n} = \frac{82.27683}{90} = .914187..$$

Retaining only the first term of the preceding expression, because $\frac{s}{n} - 1$ is negative, the probability that the sum of the inclinations of the

orbits of the planets would be comprised between the limits zero and $82^\circ 27' 683$, if all inclinations were similarly circumstanced, is

$$\frac{1}{1.2.3 \dots 10} \cdot (.914187)^{10} = .00000011235.$$

The question we have just solved is nearly the same as to determine the probability of the losses of an insurance company upon i policies upon persons of the same age being contained within certain limits.

22. A shilling is tossed into the air; B gives A a certain sum, in consideration of which A engages to pay B 2 pounds if the shilling falls head the first time; 4 pounds if it falls head the second time, and not before; 2^n pounds if it falls head the n^{th} time, and not before.

The expectation of B is

$$2 \times \frac{1}{2} + 4 \times \frac{1}{4} + 8 \times \frac{1}{8} \dots + 2^n \times \frac{1}{2^n} = \text{£}n.$$

This is called the Petersburg problem, probably from the mention made of it by Daniel Bernoulli in the Transactions of the Petersburg Academy; it was first proposed by Montmort in the *Analyse des Jeux de Hasard*, and has been generally considered as involving a great paradox, because if it is agreed that the game shall not be discontinued till the shilling falls head, n must be made infinite, and the expectation of B is infinite; still no man of prudence would be disposed to venture even a small part of his fortune at this game. On account of the celebrity of this problem we have inserted it, but there is nothing paradoxical in the result more than in any other case of *long odds*: it shows, however, that in order to estimate the value of a contingent advantage to an individual, other elements must be considered, and that the moral expectation, as it is called, to distinguish it from the mathematical expectation, depends on a great many circumstances which it is very difficult to submit to calculation.

23. It is evident that the value of any sum is much greater to an individual who lives by his daily labour and is without any capital, than it is to an individual possessed of £100,000; we may, therefore, meet this difficulty by supposing that the value of a given sum to any individual, is proportional to and may be represented by that sum, divided by the whole of the fortune which he possesses.

Let a be the sum A is to pay B on the event of which the probability is p ,
 $b \dots \dots \dots B \dots \dots \dots A \dots \dots \dots q$,
 and let f be the fortune possessed by A. On the preceding hypothesis the expectation of A is

$$\frac{b q}{(f + b)} - \frac{a p}{(f - a)}.$$

If $b q = a p$, which must be the case in order that the wager may be *fair*, the expectation of A will be $> = < 0$ as

$$\frac{1}{f + b} - \frac{1}{f - a} > = < 0$$

$$f - a > = < f + b, \text{ or } a + b < = > 0;$$

a and b are both necessarily positive, therefore $a + b > 0$. It is, therefore, evident that according to this theory of the value of money, a wager under the most favourable circumstances consistent with honesty, injures the fortune of the gamester, because he loses more by losing than he can gain by gaining any wager, since the amount of it must be compared in the former case with his diminished, in the latter, with his augmented fortune.

24. Suppose the fortunes of A and B to be both equal to f , the expectation

of A is
$$\frac{b q}{(f + b)} - \frac{a p}{(f - a)},$$

of B is
$$\frac{a p}{(f + a)} - \frac{b q}{(f - b)}.$$

In order that the expectations of A and B may be equal

$$\frac{b q}{(f+b)} - \frac{a p}{(f-a)} = \frac{a p}{(f+a)} - \frac{b q}{(f-b)}$$

$$\frac{2 f a p}{f^2 - a^2} = \frac{2 f b q}{f^2 - b^2} \quad \frac{a}{b} = \frac{q}{p} \cdot \frac{f^2 - a^2}{f^2 - b^2}$$

$\frac{a}{b} > = < \frac{q}{p}$ as $f^2 - a^2 > = < f^2 - b^2$, as $b > = < a$; therefore if $a > b$,

that is, if $p < q$, (a and b are the odds) a is not so much greater than b , as it would be if the moral expectation were not taken into account. In practice we believe this is always the case, as the reader may have observed in the example we took, page 9.

Ex. 14. Let p be the probability of a vessel coming into port, q the probability of a total loss, a the value of that part of the cargo in any vessel, which belongs to A, let there be n vessels, and f , as before, A's fortune. The mathematical value of A's expectation, the $n a$ goods being equally distributed over n vessels, is

$$n a p^n + (n-1) a n p^{n-1} q + (n-2) a \cdot \frac{n(n-1)}{1 \cdot 2} p^{n-2} q^2 + \&c.$$

$$= n a p \{ p + q \}^{n-1} = n a p, \text{ since } p + q = 1,$$

which is the same as if they were all on board the same vessel; but, on the preceding hypothesis, the value of A's expectation is

$$n a \frac{p^n}{f + n a} + (n-1) a \cdot \frac{n p^{n-1} q}{f + (n-1) a} + (n-2) a \cdot \frac{n \cdot (n-1)}{1 \cdot 2} \frac{p^{n-2} q^2}{f + (n-2) a} + \&c.$$

Where every denominator but the first is less than $(f + n a)$, and, therefore, this series is greater than the sum of the numerators divided by $(f + n a)$,

that is, greater than $\frac{n a p \cdot (p+q)^{n-1}}{f + n a}$, that is, than $\frac{n a p}{f + n a}$.

The value of A's expectation is, therefore, greater than $\frac{n a p}{f + n a}$, which is the value of his expectation when all his goods are on board the same vessel.

This principle of the distribution of risk is well known to every merchant, and, in fact, affords him all the advantages derived from insurance. It is on this principle that the East India Company never insure their vessels.

The hypothesis we have adopted in the preceding problems was suggested by the celebrated naturalist, Buffon.

25. Daniel Bernoulli supposes that the value of the fortune of any individual is made up of an infinite number of indefinitely small elements, the value of each of which is inversely as the capital already formed, so that if ϕ represent a small element of the fortune f , and $f_1, f_2, \&c.$, its successive amounts, the value of the whole fortune f will be

$$\frac{k \phi}{f_1} + \frac{k \phi}{f_2} + \dots + \frac{k \phi}{f - \phi} \quad k \text{ being some constant quantity.}$$

When ϕ is indefinitely diminished, this series $= k \log. \left(\frac{f}{f_1} \right)$. The divisor f_1 denotes that part of the fortune of the individual which is absolutely unalienable, and below which his fortune cannot sink. This theory affords us

solutions to the problem preceding, and similar problems analogous to those obtained on the supposition of Buffon.

We shall not dwell longer on this subject, 'as these hypotheses, although they may serve, in some measure, to show the difference which exists between the mathematical value of any sum and its value in practice, are quite arbitrary.

26. The search after a method of enabling a gamester to win with certainty from his antagonist, who has a greater probability in his favour, has wasted as much ingenuity as the attempt to discover perpetual motion. At all gaming tables an advantage is given by the laws of the game to the banker; and many infatuated persons, in the vain hope of detecting some scheme for rendering that advantage nugatory, have spent years in registering the course of the play with a degree of patient industry which, exerted in another direction, might have made them useful and distinguished members of society. One favourite scheme is so celebrated as to have acquired a particular name; it is called the Martingale, or Double or Quits, and consists in doubling the last stake after every loss. In order that this may be permanently successful, the player requires not only an immense capital, but an unlimited permission of staking. It is not very easy to show mathematically the amount of the player's expectation who uses the martingale, on account of the various order in which the gains and losses may be supposed to follow each other; instead of attempting it, we shall give an analysis of another scheme, in which the same difficulty does not occur. This consists in increasing the stake by a fixed sum after every loss, and diminishing it by the same after every gain. The inventors of this mode of betting looked upon it as infallible, and indeed there is something in it which might easily deceive the unwary; for it can be shown, that if the number of games won and lost be the same, no matter in what order this takes place, the result is always a gain to the player who bets upon this principle. Notwithstanding this specious circumstance, we shall show that the value of the player's expectation of gain, when his probability of winning a single game exceeds $\frac{1}{2}$, is never so great as his expectation of loss when this probability falls short of $\frac{1}{2}$ by the same quantity.

27. Let a be the original stake, b the quantity by which it is increased or diminished after every loss or gain, $m + n$ the whole number of games played. The first thing to determine is the player's gain who wins m and loses n games.

His first stake $= a$, therefore his first gain $= \pm a$, and may be represented generally by $a(-1)^a$ which becomes $\pm a$ as a is even or odd. If he wins, *i. e.* if a be even, his second stake is $a - b$, and it is $a + b$ if he loses, *i. e.* if a be odd: therefore his second stake generally is $a - b(-1)^a$ and his second gain may be represented in the same general manner by $\{a - b(-1)^a\}(-1)^b$. For the same reason his third stake will be $a - b(-1)^a - b \cdot (-1)^b$, and therefore his third gain is $\{a - b((-1)^a + (-1)^b)\}(-1)^c$, and so on.

We have, therefore, the following table of gains:

1st gain	$= a(-1)^a,$	
2d ..	$= a(-1)^b - b\{(-1)^a\}(-1)^b,$	
3d ..	$= a(-1)^c - b\{(-1)^a + (-1)^b\}(-1)^c,$	
4th ..	$= a(-1)^d - b\{(-1)^a + (-1)^b + (-1)^c\}(-1)^d,$	
&c.	&c.	&c.

There are $m + n$ stakes, and we have determined nothing of the quantities a, b, c , &c. except that m are even, and n odd, because by supposition the player wins m games, and loses n . Therefore m of the quantities $(-1)^a$,

$(-1)^a$, &c. will each $\equiv +1$, and the remaining n each $\equiv -1$. The coefficient of a in the sum of the gains is the sum of all these quantities, and therefore $\equiv m - n$. The coefficient of b is the sum of the products of them all two by two, and therefore is equal to the coefficient of the third term of an equation which has m roots $\equiv +1$, and n roots $\equiv -1$, i. e. of $(x-1)^m (x+1)^n$, i. e.

$$= \frac{m \cdot (m-1)}{1 \cdot 2} - mn + \frac{n \cdot (n-1)}{1 \cdot 2} = \frac{(m-n)^2 - (m+n)}{2}.$$

Therefore, the player's gain $\equiv (m-n)a + \frac{(m+n) - (m-n)^2}{2}b$; if

$m \equiv n$ this reduces itself to $\frac{(m+n)b}{2}$, and it is plain that these results are

quite independent of the order in which the gains and losses follow each other. This very elegant solution was given by Mr. Babbage, in the *Edinburgh Transactions* for 1821; it remains now to estimate the player's expectation, whose probability of winning any single game $\equiv p$. Let $m+n \equiv i$.

The player's gain, if he wins m games, $\equiv (m-n)a + \frac{m+n - (m-n)^2}{1 \cdot 2}b$

$\therefore \equiv \left\{ ia + \frac{i(i-1)}{1 \cdot 2}b \right\} + 2m \{ a + (i-1)b \} - 2m \cdot (m-1)b$, since

$n \equiv i - m$; and in order to get the player's expectation we must multiply this into the term of $\{ p + (1-p) \}^i$ of which the argument is $p^m \cdot (1-p)^{i-m}$, and take the sum of all those products; giving m , which is now the only variable, every value from 0 to i both inclusive. This product is

$$= \frac{i \cdot (i-1) \cdot \dots \cdot 1}{1 \cdot 2 \cdot \dots \cdot m \cdot 1 \cdot 2 \cdot \dots \cdot n} p^m (1-p)^{i-m}$$

$$\times \left\{ \left\{ ia + \frac{i(i-1)}{1 \cdot 2}b \right\} - 2m \{ a + (i-1)b \} + 2m(m-1)b \right\}.$$

Therefore the sum of all the values of this product is

$$\begin{aligned} & \left\{ ia + \frac{i(i-1)}{1 \cdot 2}b \right\} \times \text{the sum of all } \frac{i \cdot (i-1) \cdot \dots \cdot 1}{1 \cdot 2 \cdot \dots \cdot m \cdot 1 \cdot 2 \cdot \dots \cdot n} p^m (1-p)^{i-m} \\ & + 2 \cdot \{ a + (i-1)b \} ip \times \dots \dots \dots \frac{(i-1) \cdot (i-2) \cdot \dots \cdot 1}{1 \cdot 2 \cdot (m-1) \cdot 1 \cdot 2 \cdot \dots \cdot n} p^{m-1} (1-p)^{i-m} \\ & - 2b \cdot i \cdot (i-1) p^2 \times \dots \dots \dots \frac{(i-2) \cdot (i-3) \cdot \dots \cdot 1}{1 \cdot 2 \cdot (m-2) \cdot 1 \cdot 2 \cdot \dots \cdot n} p^{m-2} (1-p)^{i-m}. \end{aligned}$$

When every value from 0 to i inclusive is given to m , the sums of all the values of these three right-hand factors, rejecting those in which the index of p is negative, severally become $\{ p + (1-p) \}^i$, $\{ p + (1-p) \}^{i-1}$, and $\{ p + (1-p) \}^{i-2}$, all equal to unity.

Therefore the sum of all the values of the products

$$\begin{aligned} & = - \left\{ ia + \frac{i(i-1)}{1 \cdot 2}b \right\} + 2ip \cdot \{ a + (i-1)b \} - 2i(i-1)p^2b \\ & = i \cdot (2p-1) \cdot a - \frac{i \cdot (i-1)}{1 \cdot 2} (2p-1)^2 b. \end{aligned}$$

If $p = \frac{1}{2} + x$, this expectation of gain $\equiv 2ixa - 2i(i-1)x^2b$, and

if $p = \frac{1}{2} - x$ the expectation of loss $= 2 i x a + 2 i (i - 1) x^2 b$. The expectation of a player, who is entirely ignorant of the value of p , is found by integrating the expression here found

$$\int \left\{ i a \cdot (2 p - 1) - \frac{i(i-1)}{1 \cdot 2} b \cdot (2 p - 1)^2 \right\} d p$$

$$= \frac{3 i a \cdot (2 p - 1)^2 - i \cdot (i - 1) \cdot b \cdot (2 p - 1)^3}{12}$$

and from $p = 0$ to $p = 1$, $= - \frac{i \cdot (i - 1) \cdot b}{6}$.

It should be observed that this solution only applies to the case when there is a limiting equation between a and b , such that $a - (i - 1) b > 0$, otherwise there might be a conjunction in the game, in which the player could not follow the rules of this scheme, and consequently would alter his expectation. If this be not attended to, the theorem supposes, what can never take place in practice, that the player has the power of reducing his stake below zero, that is, of taking his adversary's situation in some point of the game.

28. Let there be two conflicting events P and Q, of which the probabilities are p and q respectively, and let $m + n$ trials take place; the probability that the event P will happen m times, and the event Q, n times, without regard to the order in which they succeed each other, is

$$\frac{(m + n) \cdot (m + n - 1) \dots 2 \cdot 1}{1 \cdot 2 \dots m \cdot 1 \cdot 2 \dots n} p^m \cdot q^n,$$

which we shall represent by p_m . Similarly, the probability that the event P will happen $m + 1$ times and the event Q, $(n - 1)$ times, is

$$\frac{(m + n) \cdot (m + n - 1) \dots 2 \cdot 1}{1 \cdot 2 \dots (m + 1) \cdot 1 \cdot 2 \dots (n - 1)} p^{m+1} \cdot q^{n-1} = p_{m+1}.$$

If $p_{m+1} > p_m$, $\frac{p_{m+1}}{p_m} > 1$; $p > \frac{(m + 1) \cdot q}{n}$; and since $p + q = 1$,

$m > (m + n) p - q$, and this continues until $m = (m + n) p - q$, in which case $p_m = p_{m+1}$; and, since m must be a whole number, the greatest term in the development of $(p + q)^{m+n}$ is that when $m = (m + n) p - q$, if $(m + n) p - q$ be a whole number, or, if not a whole number, the next greater.

Suppose, for instance, $p = \frac{2}{3}$ and consequently $q = \frac{1}{3}$, and let $m + n = 17$, m is $\frac{17 \times 2 - 1}{3}$, or $\frac{33}{3} = 11$; so that the most probable event, as compared with any other event which can occur in 17 trials, is a repetition of P 11 times, and Q 6 times.

If $m + n = 18$, m is the whole number next greater than $\frac{18 \times 2 - 1}{3}$, $= \frac{35}{3}$; which is 12, and the most probable event as compared with any other which can happen in 18 trials, is a repetition of P 12 times, and of Q 6 times.

When $m+n = \frac{w}{p}$, w being a whole number; since m is the next whole number greater than $(m+n)p - q$, and since $(m+n)p = w$, and q is necessarily a proper fraction, $(m+n)p$ or w is the next whole number greater than $(m+n)p - q$, and, therefore, $m = w = (m+n)p$, $n = (m+n)(1-p) = (m+n)q$; $\frac{m}{n} = \frac{p}{q}$, that is to say, the event most likely to happen is a combination in which the number of repetitions of p and q is proportional to the simple probability of the happening of each.

29. It is only as compared with any other single combination, that the one we have just mentioned increases in probability with the number of trials: if we estimate the abstract probability of the event corresponding with this *maximum* term, we shall easily find that it diminishes as the number of trials increases.

For this purpose let the maximum term in $m+n$ trials be represented by p_m , we have already seen that

$$p_m = \frac{(m+n) \cdot (m+n-1) \dots 2 \cdot 1}{1 \cdot 2 \dots m \cdot 1 \cdot 2 \dots n} p^m q^n,$$

where $m > = (m+n)p - q$, that is $> = (m+n+1)p - 1$,
and $< (m+n+1)p$.

In one more trial

$$p_{m'} = \frac{(m+n+1) \cdot (m+n) \dots 2 \cdot 1}{1 \cdot 2 \dots m' \dots 1 \cdot 2 \dots n'} p^{m'} q^{n'},$$

m' being limited in the same manner,

$$\begin{aligned} m' &> = (m+n+2)p - 1, \text{ that is } > m+p-1, \\ &< (m+n+2)p, \quad \text{that is } < m+p+1, \\ \therefore m' &\text{ is either } m \text{ or } m+1. \end{aligned}$$

$$\text{If } m' = m, \quad \frac{p_{m'}}{p_m} = \frac{m+n+1}{n+1} q = \frac{n+1+m-(m+n+1)p}{n+1} < 1.$$

$$\text{If } m' = m+1, \quad \frac{p_{m'}}{p_m} = \frac{m+n+1}{m+1} \cdot p < 1,$$

\therefore in both cases, which will go on occurring successively, $p_{m'} < p_m$.

30. There is, however, another probability connected with the most probable combination, which does increase continually with the number of trials, for it is always possible to assign a number of trials, such as to give any required probability that the difference between the ratio of the number of repetitions of the events, and the simple probabilities of the events, shall lie within any given limits. Thus, if there are 3 white balls in a bag, and 2 black balls, we can always assign a number of trials, such as to give any probability as near as we please to certainty, that the difference between $\frac{3}{5}$ and the ratio of the number of white balls drawn to the number of black balls, shall lie between given limits, however near those limits may be assumed. This is a theorem of the highest importance in the theory of probability, and indeed, it is on the converse of it that the value of experience depends. We shall endeavour to prove it as shortly as possible, and it will facilitate this object if, instead of representing the simple probabilities by p and q , as we have

hitherto done, we express them by the two fractions $\frac{a}{a+b}$ and $\frac{b}{a+b}$, in which a and b are both whole numbers.

31. The events of which the probabilities are $\frac{a}{a+b}$ $\frac{b}{a+b}$ would be repeated in $m(a+b)$ trials exactly ma and mb times, if they were combined in the ratio of their simple probabilities. Let us suppose that the number of times that the first will be repeated in the observed event lies between the limits $ma - m$ and $ma + m$, that is to say, that there will not be fewer than $ma - m$ and not more than $ma + m$ recurrences of that event in the $m(a+b)$ trials. The probability that this will be the case is the sum of the $2m + 1$ terms in the developement of $\left(\frac{a}{a+b} + \frac{b}{a+b}\right)^{m(a+b)}$

from the term whose argument is a^{ma-m} to the term whose argument is a^{ma+m} , both inclusive. We shall call these two last-mentioned terms the first and second limiting terms, and it is clear that the maximum term, the argument of which is a^m , lies between them.

32. The whole series may thus be written out at length :

$$\left(\frac{a}{a+b} + \frac{b}{a+b}\right)^{m(a+b)} = p_{m(a+b)} + p_{m(a+b)-1} + \dots + p_{ma+m-1}$$

First limiting term.	Maximum.	Second limiting term.
$+ p_{ma+m} \dots + p_{ma+1}$ Parcel of the first limit.	$+ p_{ma}$ $+ p_{ma-1} \dots + p_{ma-m}$ Parcel of the second limit.	
$+ p_{ma-m-1} \dots + p_1 + p_0$		

the index at the foot of p always denoting the power to which a is involved in that term. Our object is to show that the $2m + 1$ terms within the limits, may be made as many times greater than the rest of the series as we please; and we shall do this by showing that the first m of these $2m + 1$ terms, which we will call the parcel of the first limit, can be made as many times greater as we please than all which precede them, and the last m terms, or the parcel of the second limit, as many times greater as we please than all which follow them.

33. There are $mb - m$ terms which precede our first limit, which may be classed in $(b - 1)$ parcels, each containing m successive terms, and similarly the $ma - m$ terms, after the second limit, may be classed in $(a - 1)$ parcels, each containing m successive terms. As the maximum term p_{ma} is in the middle of our limits, and as the values of the terms increase from each end of the series up to the maximum term, the sum of all the $(b - 1)$ parcels before the first limit will be less than $(b - 1)$ times the parcel next before the first limit; and the sum of all the $(a - 1)$ parcels beyond the second limit will be less than $(a - 1)$ times the parcel next following the second limit. It is also plain, for the same reason, that the parcel of the first limit is greater than the parcel which immediately precedes the first limit, and, since the ratio of the maximum term to the first limiting term, or the ratio of p_{ma} to p_{ma+m} , is less than the ratio of any term in the parcel of the first limit, to the corresponding term in the parcel next preceding the first limit, (because these ratios continually approach nearer to a ratio of equality as they approach the maximum term,) it follows that the ratio of p_{ma} to p_{ma+m} is less than the ratio of the whole parcel of the first limit to the whole parcel immediately preceding it.

34. If, therefore, we can show that p_{ma} can, by a proper assumption of m , be made greater than $i.(b - 1)$ times p_{ma+m} , however great i is taken, it will follow that this value of m will make the parcel of the first limit still

greater than $i \cdot (b - 1)$ times the parcel immediately preceding it, and very much greater than i times the sum of all the parcels which precede it. Exactly the same reasoning will show that if p_{ma} can be made greater than

$i \cdot (a - 1)$ times p_{ma-m} , that is, $\frac{p_{ma}}{p_{ma-m}} > i \cdot (a - 1)$ the parcel of the second

limit, will, with the same value of m , be more than i times greater than all the parcels which follow it.

35. Let a be that one of the quantities a and b , which is not the least. A value of m , which will make p^{ma} greater than $i \cdot (a - 1)$ times p_{ma-m} , and than $i \cdot (a - 1)$ times p_{ma+m} , will evidently satisfy both the above-mentioned conditions.

$$\frac{p_{ma}}{p_{ma+m}} = \frac{(ma + 1) \dots (ma + m)}{(mb - \{m - 1\}) \dots mb} \left(\frac{b}{a}\right)^m = \frac{(mab + b) \dots (mab + mb)}{(mab - \{m - 1\}a) \dots mab}.$$

The last pair of factors here is $\frac{mab + mb}{mab}$, or $\frac{a + 1}{a}$, and any other pair, such as the r^{th} , is

$$\frac{mab + rb}{mab - (m - r)a}, \text{ which is } > \frac{a + 1}{a},$$

if $mab + rb > (a + 1)(mb - m + r)$,

that is, if $b < a + 1$,

which by supposition it is. Therefore

$$\frac{p^{ma}}{p_{ma+m}} > \left(\frac{a + 1}{a}\right)^m,$$

for there are m factors in this continued product.

$$\frac{p_{ma}}{p_{ma-m}} = \frac{(mb + 1) \dots (mb + m)}{(ma - \{m - 1\}) \dots ma} \left(\frac{a}{b}\right)^m = \frac{(mab + a) \dots (mab + ma)}{(mab - \{m - 1\}b) \dots mab}.$$

Any factor, as the r^{th} , here

$$= \frac{mab + ra}{mab - (m - r)b}, \text{ which is } > \frac{a + 1}{a},$$

if $a^2(mb + r) > (a + 1) \cdot b(ma - \{m - r\})$,

that is, if $ra(a - b) + (m - r) \cdot b > 0$,

which it must always be, for neither $a - b$, nor $m - r$, can ever become negative.

$$\therefore \frac{p_{ma}}{p_{ma-m}} > \left(\frac{a + 1}{a}\right)^m. \text{ Assume } \left(\frac{a + 1}{a}\right)^m = i \cdot (a - 1),$$

$$\text{or } m = \frac{\log. i + \log. (a - 1)}{\log. (a + 1) - \log. a},$$

and with this value of m both the necessary conditions are satisfied.

36. Therefore the probability

$$= \frac{\text{1st parcel} + 2\text{d parcel} + a_m}{\text{1st parcel} + 2\text{d parcel} + a_m + \text{sum of other parcels'}}$$

or since $\text{1st parcel} + 2\text{d parcel} > i \cdot (\text{sum of other parcels})$

$$= i \cdot (\text{sum of other parcels}) + k,$$

our probability

$$= \frac{i \cdot (\text{sum of other parcels}) + k + a_m}{(i+1)(\text{sum of other parcels}) + k + a_m} > \frac{i}{i+1},$$

since every proper fraction is diminished by taking the same quantity (in this instance $k + a_m$) from its numerator and denominator.

37. We thus have a probability, $> \frac{i}{i+1}$, that the number of recurrences

of the event, whose probability is $\frac{a}{a+b}$, will, in $m \cdot (a+b)$ trials, lie between

the numbers $(ma+m)$, $(ma-m)$, however great i be taken, and the limits of the ratio of the number of repetitions of this event to the number of trials

are $\frac{ma+m}{m \cdot (a+b)}$ and $\frac{ma-m}{m \cdot (a+b)}$, or $\frac{a+1}{a+b}$ and $\frac{a-1}{a+b}$, the difference of which is

$\frac{2}{a+b}$; and since the only restriction on the value of a and b is, that they

must be in the proportion of p to q , we may increase $a+b$ at pleasure, and thus bring the limits of this ratio as close as we please, and yet have a proba-

bility, $> \frac{i}{i+1}$, that the observed ratio will be between them. If all that is

required is that there will not be fewer than $ma-m$ recurrences, the probability clearly becomes much greater, as also the probability that there will not be more than $ma+m$.

It only remains to give an example to show fully how this theorem is applied.

Ex. 15. A bag contains three white balls and two black balls, from which a ball is repeatedly drawn and replaced. Required the number of trials in which the odds will be at least 1000 to 1 that the ratio of the number of times that a white ball is drawn to the whole number of drawings is not less

than $\frac{29}{50}$, and not greater than $\frac{31}{50}$.

The value of i is here 1000; $a = 30$, and $b = 20$.

$$\begin{aligned} \therefore m &= \frac{\log. i + \log. (a-1)}{\log. (a+1) - \log. a} = \frac{\log. 1000 + \log. 29}{\log. 31 - \log. 30} \\ &= \frac{4.462398}{0.0142404} > 313 < 314. \end{aligned}$$

Therefore we must take $m = 314$, and the number of trials $= m(a+b) = 15700$, in which number of drawings the odds will be more than 1000 to 1 that a white ball will have been drawn not less than $ma-m$, or 9106 times, and not more than $ma+m$, or 9734 times.

If the odds had been required to be at least 10,000 to 1, or 100,000 to 1, we need only change the value of i , which gives, in the first case,

$$m = \frac{5.462398}{0.0142404} < 384 \text{ and } m(a+b) = 19200;$$

and in the second case,

$$m = \frac{6.462398}{0.0142404} < 454 \text{ and } m(a+b) = 22700,$$

which serves to show how much more rapidly the probability increases than the number of trials; for after the first 15,700 trials, the addition of 3500 new trials increases the odds tenfold, and 3500 more increases them tenfold again.

38. This highly important theorem is due to James Bernoulli, a celebrated mathematician of the last century, whose name it bears.

39. We have supposed known the number of favourable and unfavourable cases similarly circumstanced in the problems we have hitherto considered. Thus, in the problems relating to dice, we took for granted the form of the dice, and also their homogeneity.

40. However nearly any die may fulfil these given conditions, it will not do so strictly; and if we investigate the probability of any throw upon the principles hitherto developed, we obtain a result approximately correct, and of which the error depends on the inaccuracy of our hypothesis. The knowledge that a defect of homogeneity is possible, renders the return of the same face in several repeated trials more probable than it would be, if the die were known to be homogeneous. In tossing up a shilling, the probability of its falling heads, or the reverse, twice successively, is rather greater than $\frac{1}{4}$.

41. If such considerations apply to these very simple questions, it will readily be seen how difficult it is to estimate mathematically those probabilities which depend on more complicated circumstances; as the probability of an individual living a given number of years, or the probability of the truth of any assertion. Truths of definition are the only certain propositions. We shall not stop to inquire whether any limit separates truths of definition from propositions which rest upon experience; the distinction however may be admitted.

42. It is impossible to suppose that "*a part is greater than the whole*" without involving a contradiction to the sense in which the words forming this sentence are understood, so that the truth of the proposition, that "*a part is less than the whole*" results from the very definition of the words which compose this sentence. If on the other hand we consider the proposition that the sun will rise to-morrow; the number of times we believe the sun to have risen daily without interruption induces us to believe that the sun will rise again. Most of our opinions arise from our experience of the past, and rest upon probabilities of this kind.

43. In order to obtain mathematical solutions of problems similar to these we must revert to games of chance. Any problem in chances may be represented by throws with dice of different forms, or by drawings from bags containing balls of different colours. Nor is it any objection to the results we obtain by this means, that no dice can be formed which exactly fulfil the conditions we suppose them to do, any more than it is to the theorems in Euclid that the lines which compose the diagrams are not mathematically straight.

44. When our knowledge of the number of cases similarly circumstanced is imperfect, the probability of an event is still deduced upon the same principles as those hitherto developed. We have recourse to *hypotheses*, and having estimated their probability, the probability of any future event which depends on them, is easily deduced.

45. The probability of each hypothesis by definition is the number of cases which favour this hypothesis divided by the whole number of cases possible.

Ex. 16. Let us suppose a bag to contain three balls, and that we are uncertain whether of these balls two are black and one is white, or one is black and two are white, and that a white ball has been drawn.

Let us call these balls 1, 2, 3, and let us also suppose that the uncertainty

is with respect to the colour of No. 2.

	No. 1.	No. 2.	No. 3.
1st hypothesis,	black,	black,	white.
2nd „	„	black,	white, white.

On the first hypothesis No. 3 must have been drawn; we have, therefore, only one case which favours this hypothesis. On the second hypothesis, either No. 2 or No. 3 has been drawn, so that we have two cases which favour this hypothesis, and, therefore, the probabilities of these hypotheses respectively are $\frac{1}{1+2}$ and $\frac{2}{1+2}$, or $\frac{1}{3}$ and $\frac{2}{3}$.

In order to extend the principle of this reasoning to the general case, let us suppose that an event has been observed which must have resulted from one of a given number of causes. Let the probability of the existence of one of these causes have been estimated at P before the observed event took place, and let the probability of the observed event calculated upon the certitude of that cause be called p .

The probability that the event will happen in consequence of that cause $= Pp$, and the probability that the event will happen, without reference to any particular cause $= \Sigma.Pp$; extending the sign of summation to all the possible causes.

The probability that the event will happen in consequence of the selected cause, (or Pp), may be estimated in a different manner: it equals the product of the probability that it will happen, (or $\Sigma.Pp$), by the probability that if it does happen, it will be in consequence of that cause: the latter is evidently the probability of the selected cause derived from the observation.

Therefore the derived probability of that cause $= \frac{Pp}{\Sigma.Pp}$, which result may be stated in the following important theorem.

The probability of any hypothesis is the probability of the observed event upon this hypothesis multiplied by the probability of the hypothesis antecedently to the observation divided by the sum of the products which are formed in the same manner from all the hypotheses.

46. The probability antecedent to the observations under consideration is called the *a priori* probability; but in using this term it must be remembered that it is relative to a given epoch.

Ex. 17. Thus in the instance of a bag containing three balls, of which a white one has been once drawn and replaced. There are three possible suppositions: first, all three are white; second, two only are white; third, only one is white. On the first supposition the probability of the event observed is certainty or 1, on the second the probability is $\frac{2}{3}$, on the third it is $\frac{1}{3}$.

$$\begin{aligned} \text{Therefore the probability of the first hypothesis} &= \frac{1}{1 + \frac{2}{3} + \frac{1}{3}} = \frac{1}{2}, \\ \text{„ „ second „} &= \frac{\frac{2}{3}}{1 + \frac{2}{3} + \frac{1}{3}} = \frac{1}{3}, \\ \text{„ „ third „} &= \frac{\frac{1}{3}}{1 + \frac{2}{3} + \frac{1}{3}} = \frac{1}{6}. \end{aligned}$$

It is worth observing that these conclusions would not be affected by retaining all the four hypotheses which might have been made before the observation. For the probability of the observed event on the hypothesis we have rejected, namely, that all three balls are white, being $= 0$, the probability of the others will not be altered by including it also in the sum of probabilities which make up the denominator of the above-written fractions.

47. Let the ratio of the white balls to the whole number of balls be any of the following quantities,

$$x \dots\dots 2x \dots\dots 3x \dots\dots ix,$$

let any of these hypotheses be equally probable *a priori*, and let a white ball have been drawn.

The probability of the event observed, namely, the drawing a white ball, on the first hypothesis is x , the *a priori* probability of this hypothesis is $\frac{1}{i}$, because there are i hypotheses equally probable; therefore the probability of this hypothesis is

$$\frac{\frac{x}{i}}{\frac{1}{i} x \{1 + 2 + 3 \dots i\}} = \frac{2}{i(i+1)}.$$

Similarly, the probability of the second hypothesis is $\frac{2 \times 2}{i(i+1)}$, of the third is $\frac{3 \times 2}{i(i+1)}$, and so on.

The probability of drawing a white ball in a future trial, after replacing the ball drawn, if the first hypothesis were the true one, would be x ; the probability of this hypothesis is $\frac{2}{i(i+1)}$; therefore, the probability of drawing a white ball, considering only this hypothesis, is $\frac{2x}{i(i+1)}$.

Similarly, considering the second hypothesis, the probability is $\frac{2x \times 2^2}{i(i+1)}$,

„ third „ $\frac{2x \times 3^2}{i(i+1)}$,

and the sum of all these, or the probability of drawing a white ball again, is

$$\frac{2x}{i(i+1)} \{1 + 2^2 + 3^2 \dots\dots + i^2\}.$$

In order to find the sum of this series, we shall employ a method of greater generality than is necessary in this particular case, because it furnishes the readiest method of summing a great many series of the same kind.

$$e^x = 1 + x + \frac{x^2}{1.2} + \&c.$$

$$e^{2x} = 1 + 2x + \frac{2^2 \times x^2}{1.2} + \&c.$$

$$e^{ix} = 1 + ix + \frac{i^2 x^2}{1.2} + \&c.$$

$1 + 2^2 + 3^2 \dots + i^2$ is the coefficient of $\frac{x^2}{2}$ in $e^x + e^{2x} \dots e^{ix}$,

$$\text{or } \frac{e^x (e^{ix} - 1)}{e^x - 1} \text{ or } \frac{e^{ix} - 1}{1 - e^{-x}},$$

$$\text{or } i + \frac{i^2 x}{2} + \frac{i^3 x^2}{6} + \&c. \\ \hline 1 - \frac{x}{2} + \frac{x^2}{6} - \&c.$$

If we effect the division of $\frac{1}{1 - \frac{x}{2} + \frac{x^2}{6} - \&c.}$ the three first terms will be

found to be $1 + \frac{x}{2} + \frac{x^2}{12}$, and all beyond involve higher powers of x than the square, and therefore need not be considered. Multiplying $i + \frac{i^2 x}{2} + \frac{i^3 x^2}{6}$ by $1 + \frac{x}{2} + \frac{x^2}{1.2}$, we get for the coefficient of $\frac{x^2}{2}$, $\frac{2i^2 + 3i^2 + i}{6}$, therefore

$$1 + 2^2 \dots + i^2 = \frac{2i^2 + 3i^2 + i}{6} = \frac{i(i+1)(2i+1)}{6},$$

and the probability in question is

$$\frac{2x}{i \cdot i + 1} \left\{ \frac{i(i+1)(2i+1)}{6} \right\} = \frac{(2i+1) \cdot x}{3}.$$

When i is very great, this fraction approximates to $\frac{2ix}{3}$; if, therefore,

the ratio of the white balls may be any ratio between 0 and unity, that is, if we have no data to determine that some of these values are more probable than others, $ix = 1$, and this probability is $\frac{2}{3}$.

48. Let the ratio of the white balls to the whole number of balls, be any of the following, $\Delta x, 2 \Delta x, 3 \Delta x \dots i \Delta x$, and consequently the ratio of the black balls to the whole number of balls,

$$1 - \Delta x, 1 - 2 \Delta x, 1 - 3 \Delta x \dots 1 - i \Delta x,$$

and let m white balls have been drawn, and n black, in any given order.

The probability of the event observed on the hypothesis that $i \Delta x$ is the ratio of the white balls to the whole number of balls is

$$\frac{(m+n) \cdot (m+n-1) \dots 1}{1.2.3 \dots m.1.2.3 \dots n} \times (i \Delta x)^m (1 - i \Delta x)^n,$$

and the probability of this hypothesis is

$$\frac{(i \Delta x)^m (1 - i \Delta x)^n}{\Delta x^m (1 - \Delta x)^n + (2 \Delta x)^m (1 - 2 \Delta x)^n + \&c.}$$

The probability of drawing m' white balls, and n' black balls, in $m' + n'$ future trials upon this hypothesis, is

$$\frac{(m' + n') (m' + n' - 1) \dots \dots 1}{1 \cdot 2 \cdot 3 \dots m' \cdot 1 \cdot 2 \cdot 3 \dots n'} (i \Delta x)^{m'} (1 - i \Delta x)^{n'},$$

multiplying this by the probability of the hypothesis, the probability of drawing m' white balls and n' black balls, considering only this hypothesis, is

$$\frac{(m' + n') (m' + n' - 1) \dots \dots 1}{1 \cdot 2 \cdot 3 \dots m' \cdot 1 \cdot 2 \cdot 3 \dots n'} \times \frac{(i \Delta x)^{m+m'} (1 - i \Delta x)^{n+n'}}{\Delta x^m (1 - \Delta x)^n + (2 \Delta x)^m (1 - 2 \Delta x)^n + \&c.},$$

and the probability of drawing m' white balls and n' black balls, considering all the hypotheses, is

$$\frac{(m' + n') (m' + n' - 1) \dots \dots 1}{1 \cdot 2 \cdot 3 \dots m' \cdot 1 \cdot 2 \cdot 3 \dots n'} \times \left\{ \frac{\Delta x^{m+m'} (1 - \Delta x)^{n+n'} + (2 \Delta x)^{m+m'} (1 - 2 \Delta x)^{n+n'} + \&c.}{\Delta x^m (1 - \Delta x)^n + (2 \Delta x)^m (1 - 2 \Delta x)^n + \&c.} \right\}.$$

Let Δx be infinitely diminished, and let $i \Delta x = 1$, that is, let any ratio of white balls to the whole number of balls contained in the bag to Δx be equally possible between zero and unity, then this expression becomes

$$\frac{(m' + n') (m' + n' - 1) \dots \dots 1}{1 \cdot 2 \cdot 3 \dots m' \cdot 1 \cdot 2 \cdot 3 \dots n'} \frac{\int x^{m+m'} (1 - x)^{n+n'} dx}{\int x^m (1 - x)^n dx},$$

taken between the limits $x = 0$ and $x = 1$.

$$\begin{aligned} \int x^m (1 - x)^n dx &= \frac{x^{m+1}}{m+1} (1 - x)^n + \frac{n}{m+1} \int x^{m+1} (1 - x)^{n-1} dx \\ &= \frac{x^{m+1}}{m+1} (1 - x)^n + \frac{n}{(m+1)(m+2)} x^{m+2} (1 - x)^{n-1} \\ &\quad + \frac{n \cdot (n-1)}{(m+1)(m+2)} \int x^{m+2} (1 - x)^{n-2} dx \\ &= \frac{x^{m+1}}{m+1} (1 - x)^n + \frac{n}{(m+1)(m+2)} x^{m+2} (1 - x)^{n-1} \\ &\quad + \frac{n \cdot (n-1)}{(m+1)(m+2)(m+3)} x^{m+3} (1 - x)^{n-2} \\ &\quad \dots \dots + \frac{n \cdot (n-1) \cdot (n-2) \dots \dots 1}{(m+1)(m+2) \dots (m+n+1)} x^{m+n+1}. \end{aligned}$$

When $x = 0$, all these terms vanish; when $x = 1$, all vanish except the last; therefore the integral required, taken between the limits $x = 0$ and $x = 1$, is

$$\frac{n(n-1)(n-2) \dots \dots 1}{(m+1)(m+2)(m+3) \dots (m+n+1)} \int x^{m+m'} (1 - x)^{n+n'} dx, \text{ taken between the same limits, is}$$

$$\frac{(n+n')(n+n'-1)(n+n'-2) \dots \dots 1}{(m+m'+1)(m+m'+2) \dots (m+m'+n+n'+1)},$$

therefore the probability required is

$$\frac{(m+n')(m+n'-1) \dots \dots 1}{1 \cdot 2 \cdot 3 \dots m' \cdot 1 \cdot 2 \cdot 3 \dots n'} \times \frac{(n+n')(n+n'-1) \dots \dots 1}{(m+m'+1)(m+m'+2) \dots (m+m'+n+n'+1)}$$

$$\times \frac{(m+1)(m+2) \dots (m+n+1)}{n \cdot (n-1) \dots 1} \\ = \frac{(m'+n')(m'+n'-1) \dots 1}{1 \cdot 2 \cdot 3 \dots m' \dots 1 \cdot 2 \cdot 3 \dots n'}$$

$$\times \frac{(n+1)(n+2) \dots (n+n')(m+1)(m+2) \dots (m+m'+1)}{(m+n+2) \dots (m+n+3) \dots (m+n+4) \dots (m+n'+n+n'+1)}$$

If $(n+1)(n+2) \dots (n+n')$ be represented by $[n+1]^{n'}$
 $(m+1)(m+2) \dots (m+m')$ „ „ $[m+1]^{m'}$
 and $(m+n+2)(m+n+3) \dots (m+m'+n+n'+1)$ by
 $[m+n+2]^{m'+n'}$, this probability is expressed by

$$\frac{(m'+n')(m'+n'-1) \dots 1}{1 \cdot 2 \cdot 3 \dots m' \dots 1 \cdot 2 \cdot 3 \dots n'} \frac{[n+1]^{n'} [m+1]^{m'}}{[m+n+2]^{m'+n'}}$$

Which result in this form may be easily remembered, by observing that it is the same (with the difference of notation) as if the simple probability of

drawing a white ball was $\frac{m+1}{m+n+2}$ and the probability of drawing a black ball was $\frac{n+1}{m+n+2}$.

Ex. 18. Let us suppose the sun to have risen 2000000 times, or days, then the probability that it will rise again is given by the preceding formula, by making $p = 2000000$, and $q = 0$, the probability required is $\frac{2000000}{2000000+1}$.

This probability, which is already very great, must be very considerably increased, if the discoveries of physical astronomy are taken into account.

49. If a white ball has been drawn p times, and a black ball q times, the probability of drawing a white ball in a future trial is $\frac{p+1}{p+q+2}$, and the

probability of drawing a black ball is $\frac{q+1}{p+q+2}$; the greater p and q be-

come, the more nearly do these fractions coincide with $\frac{p}{p+q}$ and $\frac{q}{p+q}$,

which are their limits when p and q are indefinitely increased. This theorem is the converse of Bernoulli's theorem, of which we gave a demonstration, p. 21.

Ex. 19. We said, that if a shilling was tossed into the air, the probability of its falling heads, or the reverse, twice running, was rather greater than $\frac{1}{4}$.

Let the probability of the shilling falling heads, be any of the following quantities:

$$\frac{1}{2} - ix, \quad \frac{1}{2} - (i-1)x, \quad \frac{1}{2} - x, \quad \frac{1}{2}, \quad \frac{1}{2} + x, \quad \frac{1}{2} + (i-1)x, \quad \frac{1}{2} + ix.$$

The number of hypotheses is $2i+1$, and the probability of the shilling falling heads twice running is

$$\frac{1}{2i+1} \left\{ \left(\frac{1}{2} - ix \right)^2 + \left\{ \frac{1}{2} - (i-1)x \right\}^2 \dots \dots + \left\{ \frac{1}{2} - x \right\}^2 + \left(\frac{1}{2} \right)^2 \right. \\ \left. + \left(\frac{1}{2} + ix \right)^2 + \left\{ \frac{1}{2} + (i-1)x \right\}^2 \dots \dots + \left\{ \frac{1}{2} + x \right\}^2 \right\}$$

$$\begin{aligned}
 &= \left(\frac{1}{2}\right)^2 + \frac{2x^2}{2i+1} \{1 + 2^2 + 3^2 \dots i^2\} \\
 &= \left(\frac{1}{2}\right)^2 + \frac{2x^2}{2i+1} \left(\frac{i \cdot (i+1) \cdot (2i+1)}{2 \cdot 3}\right) = \left(\frac{1}{2}\right)^2 + \frac{i \cdot (i+1) \cdot x^2}{3}.
 \end{aligned}$$

which probability is greater than $\left(\frac{1}{2}\right)^2$, the result when the shilling is supposed homogeneous.

Ex. 20. It follows, from what has preceded, that if an individual has made $m + n$ assertions, of which m are true and n are false; the probability of his telling the truth, in any case, is $\frac{m+1}{m+n+2}$, so far as we draw our conclusions from these assertions alone.

Let $\frac{m+1}{m+n+2} = v$, and let p be the *a priori* probability of an event which he asserts to have taken place.

The event observed is the assertion by this individual that the event took place, of which the *a priori* probability is p .

If the event did take place, the individual tells the truth; the probability of the event on this hypothesis is $p v$.

The probability of the event on the contrary hypothesis is $(1-p)(1-v)$, therefore the probability of this hypothesis is

$$\frac{p v}{p v + (1-p)(1-v)}.$$

If
$$\frac{p v}{p v + (1-p)(1-v)} > p, \quad v > \frac{1}{2}.$$

Thus we see that when a witness asserts that an event has taken place, he renders the probability that it did take place greater than the simple probability of the event only when his veracity is greater than $\frac{1}{2}$, which result might have been foreseen.

Ex. 21. A witness asserts that out of a bag containing a thousand tickets, a given ticket, say No. 70, has been drawn, required the probability that this number was drawn.

Let the veracity of the witness be v , as before.

The event observed is the assertion by the witness that the given number was drawn, the probability of this event, on the hypothesis that the witness tells the truth, is $\frac{v}{1000}$, the probability of the event on the contrary hypothesis,

namely, that this ticket was not drawn, is $\frac{999}{1000} (1-v)$; but if the witness

is supposed to have no reason or inducement for choosing the No. 70 in preference to any other of the 999 undrawn numbers, this probability must

be multiplied by $\frac{1}{999}$, which is the probability of the witness choosing this number from the 999 undrawn numbers, so that the probability of the event on this hypothesis is $\frac{1-v}{1000}$.

The probability, therefore, of the first hypothesis is $\frac{v}{v + 1 - v}$, or v , the veracity of the witness.

Ex. 22. Two individuals, whose veracities are v and v' , assert that an event has taken place, of which the probability is p .

Two hypotheses are admissible, namely, that the event did take place, and that both the individuals tell the truth; or, that the event did not take place, and that both individuals lie; the probabilities of the assertions on these hypotheses are $v v' p$ and $(1 - v) (1 - v') (1 - p)$, therefore the probabilities of these hypotheses are

$$\frac{v v' p}{v v' p + (1 - v) (1 - v') (1 - p)} \text{ and } \frac{(1 - v) (1 - v') (1 - p)}{v v' p + (1 - v) (1 - v') (1 - p)}$$

respectively.

So if n individuals, whose veracities are $v_1, v_2, v_3, \dots, v_n$, assert the event to have taken place, the probability that it did take place is

$$\frac{v_1 v_2 v_3 \dots v_n p}{v_1 v_2 v_3 \dots v_n p + (1 - v_1) (1 - v_2) \dots (1 - v_n) (1 - p)}$$

If $n + 1$ individuals assert the event to have taken place, the probability that it did take place is

$$\frac{v_1 v_2 v_3 \dots v_{n+1} p}{v_1 v_2 v_3 \dots v_{n+1} p + (1 - v_1) (1 - v_2) \dots (1 - v_{n+1}) (1 - p)}$$

which is greater than the former probability if $v_{n+1} > \frac{1}{2}$, so that the assertion

of the $n + 1^{\text{th}}$ individual increases the probability of the event arising from the testimony of the other n individuals, only when his veracity is greater than $\frac{1}{2}$.

Ex. 23. Two individuals, whose veracities are v and v' , assert that a given ticket has been drawn out of a bag containing a thousand tickets. The probability of the event on the hypothesis, that both the individuals tell the truth and that this ball was drawn, is $\frac{v v'}{1000}$; the *a priori* proba-

bility, that both the individuals lie and that the given ball was not drawn, is $(1 - v) (1 - v') \frac{999}{1000}$: if, however, these individuals have no inducement

to choose the given ticket amongst the undrawn numbers, this probability must be multiplied by $\frac{1}{(999)^2}$, which is the probability of their both select-

ing the same number amongst the undrawn numbers; the probability, therefore, of the first hypothesis, namely, that the given ticket was drawn, is

$$\frac{v v'}{v v' + (1 - v) (1 - v') \frac{1}{999}}$$

If $v_1, v_2, v_3, \dots, v_n$ are the veracities of n individuals, who all assert that a given ticket was drawn, the probability that the given ticket was drawn is

$$\frac{v_1 v_2 v_3 \dots v_n}{v_1 v_2 v_3 \dots v_n + (1 - v_1) (1 - v_2) \dots (1 - v_n) \frac{1}{(999)^{n-1}}};$$

hence we see how prodigiously the probability of an event of this kind is increased by the concurrent testimony of many individuals. It must, however, be remarked, that the weight of the concurrent testimony of different individuals depends entirely upon the absence of inducement to lead these individuals to choose any one particular number, and upon the absence of collusion.

50. If we have no data to determine the veracity of an individual, and if he asserts an event to have taken place, of which the simple probability is p , in order to find the probability that the event took place, we must consider the probability of the event upon every hypothesis which can be formed; that is, we must suppose all values of his veracity between zero and unity to be equally probable, *à priori*. The probability, therefore, that the event did take place

$$= \int \frac{p v dv}{p v + (1 - v)(1 - p)} = \int \frac{p v dv}{1 - p + (2p - 1)v}$$

taken between the limits $v = 0$ and $v = 1$;

$$\begin{aligned} &= \frac{p}{2p - 1} \int \frac{\{(2p - 1)v + 1 - p - (1 - p)\} dv}{1 - p + (2p - 1)v} \\ &= \frac{p}{2p - 1} \left\{ v - \frac{1 - p}{2p - 1} \log. (1 - p + (2p - 1)v) \right\} + c \\ &= \frac{p}{2p - 1} \left\{ 1 - \frac{1 - p}{2p - 1} \log. \left(\frac{p}{1 - p} \right) \right\}. \end{aligned}$$

When $p = \frac{9}{10}$, this is equal to $\frac{9}{8} \left\{ 1 - \frac{1}{8} \log. 9 \right\} = .816363$ or about $\frac{9}{11}$.

Ex. 24. A jury consists of n individuals; let the probability of each separately giving a right decision be p , what is the probability that a unanimous decision is a correct one? Two hypotheses can be formed, namely, that the decision is a correct one, or the contrary; the event observed is a unanimous decision, and the *à priori* probability of this event on the first hypothesis is p^n , the *à priori* probability of the event on the second hypothesis is

$(1 - p)^n$, therefore the probability of the first hypothesis is $\frac{p^n}{p^n + (1 - p)^n}$,

which is greater than $\frac{1}{2}$, only when $p > \frac{1}{2}$. Therefore it is probable that a unanimous verdict is a correct one, only when it is probable that each jurymen considered separately will give a correct decision. The same rule holds *à fortiori*, when the verdict has been given by a majority only.

If $p = .9$ and $n = 12$, this probability is equal to $\frac{9^{12}}{9^{12} + 1}$.

A jury composed of $n - 2m$ individuals is correct.

Similarly, the probability that the decision of a majority is correct

$$= \frac{p^n + n p^{n-1} (1 - p) + n \cdot (n - 1) \cdot p^{(n-2)} (1 - p)^2 + \dots}{p^n + (1 - p)^n + n p \cdot (1 - p) \cdot \{ p^{n-2} + (1 - p)^{n-2} \} + \&c.}$$

The probability that a decision given by $n - 1$ is correct, is similarly

$$\frac{p^{n-1} (1 - p)}{p^{n-1} (1 - p) + p (1 - p)^{n-1}} = \frac{p^{n-2}}{p^{n-2} + (1 - p)^{n-2}}$$

and generally the probability that a decision given by $n - m$ of the jury is correct, is the same as the probability that a unanimous decision of

a jury composed of $n - 2m$ individuals is a correct one. If $n = 12$ and $p = .9$, the probability that a decision of a majority is a correct one by the preceding expression $= \frac{999458768178}{999508948516} = \frac{19519}{19520}$ nearly.

If p is unknown, the probability that a unanimous decision is a correct one must be found by taking the integral $\int \frac{p^n \cdot dp}{p^n + (1 - p)^n}$ between the limits through which p may be supposed to vary, multiplied by $\int dp$ taken between the same limits.

51. The decision of the jury in this country can only be considered as that of a simple majority, and the probability that this decision is a correct one is small, unless the simple probability that each jurymen separately gives a correct one, is taken to be very great. If this probability is $\frac{2}{3}$, the probability of a correct decision is very little greater than $\frac{1}{3}$. The simple probability of any jurymen giving a correct decision cannot be supposed to be strictly the same for each jurymen composing the same jury, and it must also depend very much upon the nature of the question which is submitted to his determination. As this probability rests only on conjecture, we have considered the preceding questions relating to the decision of a jury with a view of showing how they might be solved if we were in possession of sufficient data rather than as laying any stress on the results obtained.

52. A bag contains a number of balls of i different colours:

m_1 of the 1st colour have been drawn and replaced,

m_2 „ 2nd,

m_i „ i^{th} ;

in $m_1 + m_2 + \dots + m_i$ trials; required the probability of drawing n_1 balls of the first colour, n_2 of the second, n_i of the i^{th} colour, in $n_1 + n_2 + \dots + n_i$ succeeding trials.

Let x_1 be the *a priori* probability of drawing a ball of the 1st colour,

x_2 „ „ „ 2nd,

x_i „ „ „ i^{th} ,

and let C be the coefficient of $x_1^{m_1} \times x_2^{m_2} \dots x_i^{m_i}$ in the development of $(x_1 + x_2 + \dots + x_i)^{m_1 + m_2 + \dots + m_i}$; then the probability of the observed event is $C \times x_1^{m_1} \times x_2^{m_2} \dots x_i^{m_i}$; the probability of the hypothesis that

x_1 is the probability of drawing a ball of the 1st colour,

x_2 „ „ „ 2nd,

x_i „ „ „ i^{th} ,

is $C \times x_1^{m_1} \times x_2^{m_2} \times \dots x_i^{m_i}$ divided by the sum of all the values of which this fraction is susceptible; and if C_1 is the coefficient of $x_1^{n_1} \times x_2^{n_2} \dots x_i^{n_i}$ in the development of $(x_1 + x_2 + \dots + x_i)^{n_1 + n_2 + \dots + n_i}$, the probability of drawing n_1 balls of the 1st colour, n_2 balls of the 2nd colour, n_i balls of the i^{th} colour is the sum of all the values of which the quantity $C \times C_1 \times x_1^{(m_1 + n_1)} \times x_2^{(m_2 + n_2)} \dots x_i^{(m_i + n_i)}$ is susceptible, divided by the sum of all the values of which the quantity $C \times x_1^{m_1} \times x_2^{m_2} \dots x_i^{m_i}$ is susceptible.

If x_1, x_2, \dots, x_i , be supposed to vary from $x = 0$ to $x = 1$, and all these values are equally probable *a priori*, then the probability required is found by taking the integral

$$\int x_1^{(m_1 + n_1)} \times x_2^{(m_2 + n_2)} \dots x_i^{(m_i + n_i)} dx_1 dx_2 dx_i$$

between the limits $x_i = 0, x_i = 1 - x_1 - x_2 - \dots - x_{i-1}$

„ „ $x_{i-1} = 0, x_{i-1} = 1 - x_1 - x_2 - x_3 - \dots - x_{i-2}$

„ „ $x_{i-2} = 0, x_{i-2} = 1 - x_1 - x_2 - \dots - x_{i-3}$

„ „ $x_1 = 0, x_1 = 1$;

and dividing the quantity so obtained by the integral

$$\int^i x_1^{m_1} \times x_2^{m_2} \dots x_i^{m_i} \times dx_1 dx_2 \dots dx_i$$

taken between the same limits.

If $(m_1 + 1) (m_1 + 2) (m_1 + 3) \dots (m_1 + n_1)$ be represented by $[m_1 + 1]^{n_1}$

$(m_2 + 1) (m_2 + 2) (m_2 + 3) \dots (m_2 + n_2)$ „ „ $[m_2 + 1]^{n_2}$

$(\Sigma(m) + i) (\Sigma(m) + i + 1) \dots (\Sigma(m) + \Sigma(n) + i)$ by $[\Sigma(m) + i]^{\Sigma(n)}$,

Σ being used as a sign of collection to denote that the sum is to be taken of all quantities which are represented by a general symbol, these integrations give for the probability required,

$$\frac{C [m_1 + 1]^{n_1} [m_2 + 1]^{n_2} \dots [m_i + 1]^{n_i}}{[m_1 + m_2 \dots \dots \dots + m_i + i]^{n_1 + n_2 \dots \dots n_i}};$$

which is the same, with the difference of notation, as if the simple probability

of drawing a ball of the r^{th} colour was $\frac{m_r + 1}{m_1 + m_2 \dots + m_i + i}$. The probability

of drawing a ball of the r^{th} colour in one succeeding trial is

$$\frac{m_r + 1}{m_1 + m_2 \dots \dots + m_i + i}$$

53. One of the most interesting and useful applications of the theory of probabilities is the solution of questions connected with the duration of life and the calculation of the values of annuities and reversionary payments. The value of an annuity is the value of the sum of the annual payments made to an individual throughout his life.

Let $1 + \text{rate of interest} = \frac{1}{r}$, and let $p_{m,n}$ be the probability of a given

individual aged m years living at least n years; the value of any sum s to be paid to him at the expiration of n years, neglecting discount, is the value of this sum multiplied by the probability of the individual being alive to receive it, which is equal to $s p_{m,n}$, this must be discounted in order to obtain its present value, which reduces it to $s r^n p_{m,n}$. If a_m is the value of an annuity of £1. to be received by an individual aged m years, the value of an annuity of £ s to the same individual is $s a_m = s \Sigma r^n p_{m,n}$.

54. When an individual insures his life at any office, the insurance company agrees to pay his executors a certain sum at his death, whenever that event may take place.

Let $q_{m,1}, q_{m,2}, q_{m,3} \dots q_{m,n}$ be the probabilities that an individual, aged m years, dies in the first, second, third, &c., or n^{th} year, then the value of £1. to be paid whenever he dies, discounted, is

$$r q_{m,1} + r^2 q_{m,2} + \dots + r^n q_{m,n};$$

but

$$q_{m,1} = 1 - p_{m,1}, \quad q_{m,2} = p_{m,1} - p_{m,2},$$

therefore the value of the insurance is

$$\begin{aligned} r(1 - p_{m,1}) + r^2(p_{m,1} - p_{m,2}) + \&c. \\ &= r(1 + a_m) - a_m, \end{aligned}$$

and the value of £ s to be paid when the individual dies is

$$s r(1 + a_m) - s a_m.$$

By means of this expression the value of an insurance at the age m may be deduced from the value of the annuity, and *vice versa*. A person insuring his life, instead of making one payment to the office, generally pays an

annuity which is called the *premium*, the value of this *premium* with present payment

$$= \frac{s r (1 + a_m) - s a_m}{1 + a_m} = r s - \frac{s a_m}{1 + a_m}$$

The value of any sum s to be paid if either of two individuals, aged m and m' years respectively, are alive after n years is

$$s r^n \{ 1 - (1 - p_{m,n}) (1 - p_{m',n}) \}$$

$$= s r^n p_{m,n} + s r^n p_{m',n} - s r^n p_{m,n} \times p_{m',n},$$

and the value of an annuity to be paid as long as either of two individuals, aged m and m' years, are alive

$$= s \{ \sum r^n p_{m,n} + \sum r^n p_{m',n} - \sum r^n p_{m,n} \times p_{m',n} \}$$

$$= s a_m + s a_{m'} - s a_{m,m'}$$

understanding by the symbol $a_{m,m'}$ the value of an annuity of £1. on the joint lives of two persons aged m and m' years.

If life is considered valuable in proportion to its duration the expectation which any individual has of life will be measured by the sum of the probabilities of his dying after each given age, that is by an annuity without interest.

Hence we have these expressions:

Expectation of life $= \sum p_{m,n}$

Value of annuity $s a_m = s \sum r^n p_{m,n}$

.....insurance of a given sum s in one payment

$$= s r (1 + a_m) - s a_m,$$

.....premium of insurance of a given sum s

$$= r s - \frac{s a_m}{1 + a_m},$$

.....annuity during two joint lives

$$= s \sum r^n p_{m,n} \times p_{m',n}$$

.....annuity to be paid as long as either of two individuals, aged m and m' years respectively, are alive

$$= s a_m + s a_{m'} - s a_{m,m'}$$

Thus if $m = 20$, $r = \frac{1}{1.03}$, $a_m = 20.1428$, according to Table III. for males.

Value of the single premium required for a male aged 20 to secure the payment of 1 at the end of the year in which the life shall fail

$$= \frac{21.1428}{1.03} - 20.1428 = .38419.$$

Value of the annual premium required for a male aged 20 to secure the payment of 1 at the end of the year in which the life shall fail

$$= \frac{1}{1.03} - \frac{20.1428}{21.1428} = .01817.$$

55. In calculating the values of annuities the labour is much diminished by observing that the probability of an individual aged m years living at

least n years is equal to the product of the probability of his living at least $n - q$ years, multiplied by the probability of an individual aged $m + n - q$ years living at least q years, or

$$p_{m,n} = p_{m,n-q} \times p_{m+n-q,q};$$

and therefore, putting

$$\begin{aligned} n-1 \text{ for } q, \quad p_{m+1,n-1} &= \frac{p_{m,n}}{p_{m,1}}, \\ a_{m+1} &= r p_{m+1} + r^2 p_{m+2} + \&c. \\ &= \frac{r^2 p_{m,2} + r^3 p_{m,3} + \&c.}{r p_{m,1}} \\ &= \frac{a_m - r p_{m,1}}{r p_{m,1}} = \frac{a_m}{r p_{m,1}} - 1. \end{aligned}$$

By means of this expression, which appears first to have been noticed by Mr. Barrett, the value of any annuity may be deduced from that which precedes or follows it.

Thus if $m = 20$, $r = \frac{1}{1.03}$, $p_{m,1} = \frac{5707}{5765}$, according to Table II., and $a_m = 20.1428$, according to Table III.,

$$a_{21} = \frac{20.1428 \times 1.03 \times 5765}{5707} - 1 = 19.9580.$$

56. It has been seen that the values of annuities, reversionary payments, &c., consist of the sum of a number of separate payments. If these payments are calculated accurately at certain intervals the values of those which are intermediate may be interpolated by known methods.

In fact, if $y_0, y_n, y_{2n}, \&c.$ are successive values of the variable y , and if $\Delta y_0 = y_n - y_0$, $\Delta^2 y = y_0 + y_{2n} - 2 y_n$, &c., and y_i be any value of y intermediate between y_0 and y_n ,

$$y_i = y_0 + i \Delta y_0 + \frac{i(i-1)}{2} \Delta^2 y_0 + \&c.$$

When the sum only of the values of y is required it is not necessary, however, to go through the labour of calculating each particular quantity in the series, it may easily be shown that this sum is equal to

$$\begin{aligned} &n(y_0 + y_n + y_{2n} + \dots + y_m) \\ &+ \frac{n-1}{2} \{y_m - y_0\} - \frac{(n-1)(n+1)}{12n} \{\Delta y_m - \Delta y_0\} \&c. \end{aligned}$$

The problem appertains to what are called mechanical quadratures, and this method is similar to that made use of in summations which are required in calculating the perturbations of a comet. See the *Mécanique Céleste*, vol. iv. p. 206. In applications of this series to the calculation of annuities, reversionary payments, &c. $y_m, \Delta y_m, \&c. = 0$. The first term in the series of the values of y or y_0 is the value of a present payment = 1, if we neglect the term

$$\frac{(n-1) \cdot (n+1)}{12n} \{\Delta y_m - \Delta y_0\}$$

and the following, and suppose the values of the annual payments to be in arithmetical progression, the value of an annuity on the life of a person aged 20, to commence at the end of the first year, supposing $n = 10$,

$$\begin{aligned}
 &= 10 \{ 1 + r^{10} p_{20,10} + r^{20} p_{20,20} + \&c. \} - \frac{9}{2} - 1, \\
 &= 10 \{ r^{10} p_{20,10} + r^{20} p_{20,20} + \&c. \} + \frac{9}{2}.
 \end{aligned}$$

57. In calculating annuities the values of the annual payments, except, perhaps, at birth, vary so gradually that the result thus obtained will be a sufficiently accurate approximation, and, probably, within the limits of the errors of which the values of p , that is of the table of mortality which is used, are susceptible; the correction, however, in all cases may be considered as constant for different tables of mortality, and may, therefore, be determined by calculating the annuity first accurately and afterwards by the approximate method from any table of mortality in which the deaths are given for every age, the difference between the two values so obtained will be the correction required.

The method of calculating annuities hitherto adopted by Dr. Price and other writers, has been, first to interpolate living between those which are actually given from ten years to ten years by the observations, to calculate probabilities of surviving each number of years from the numbers so interpolated, then to *discount* these probabilities so obtained, and finally to obtain the value of the annuity by adding together all these discounted probabilities. This labour, though diminished by means of the equation noticed by Mr. Barrett, is still unnecessary, and would lead to the same result as that given by the series of the last page. The same method is, we think, generally the simplest which can be applied to calculating annuities on two or more lives, and, in fact, to the summation of any series of which the law is too complicated to admit of the ordinary methods.

58. We have, as yet, said nothing with respect to the method of determining p and q , and this is a question of very considerable difficulty, whether as regards theory or practice.

Suppose 1000 infants to be carefully registered at birth, and the ages at which they die to be noted. If of these 900 are alive at the end of the first year the probability of an infant at birth living one year under similar circum-

stances would be nearly $= \frac{900}{1000}$, or $\frac{9}{10}$; and if the number of infants registered

were infinite, this would cease to be an approximation, the ratio of the number alive at the end of the first year to the whole number registered at birth would be exactly equal to the probability of an infant under the same circumstances living 1 year. The problem is, in fact, similar to the one we solved, page 33, when we supposed a bag to contain a number of balls of different colours, and that a certain number of drawings had been made. The different ages at which the individuals can die correspond to the different colours in the former problem.

If we suppose 101 ages at which deaths take place, that is, if we suppose n to vary from 0 to 100 in the values of $q_{m,n}$, $p_{m,n}$, and if $d_1, d_2, \&c. d_n$, are the number of the 1000 infants who have been observed to die in their first, second, and n^{th} years respectively, we have

$$\begin{aligned}
 q_{m,n} &= \frac{d_{m+n} + 1}{d_{m+1} + d_{m+2} + \dots + 101 - m} \\
 p_{m,n} &= \frac{d_{m+n} + d_{m+n+1} + \dots + 101 - m - n}{d_{m+1} + d_{m+2} + \dots + 101 - m}
 \end{aligned}$$

$$q_{0,n} = \frac{d_n + 1}{d_1 + d_2 + \dots + 101}$$

$$p_{0,n} = \frac{d_n + d_{n+1} + \dots + 101 - n}{d_1 + d_2 + \dots + 101}$$

in this case

$$d_1 + d_2 + \&c. \dots = 1000$$

$$q_{0,n} = \frac{d_{n+1}}{1101}, p_{0,n} = \frac{d_n + d_{n+1} + \&c. \dots + 101 - n}{1101}$$

59. Unfortunately, no registers of this kind have been kept, and we are obliged to have recourse to those sources which best supply this deficiency. If the population of any district were subject to no fluctuations arising from an influx of the inhabitants of the neighbouring countries, and if it were constant, that is, if the births and deaths were always the same and equal to each other, a register of the ages at which deaths took place would alone be wanted to determine the values of p and q for this place. For it is evident that if the population were large the probability of an individual dying at the n^{th} age would be equal to the deaths of persons at that age (n) divided by the births n years previously, but the births n years previously are, upon the hypothesis we have made, exactly equal to the present number of yearly deaths $= d_1 + d_2 + \&c. = \Sigma d_n$, using the letter Σ as before,

and

$$q_{0,n} = \frac{d_n}{\Sigma(d_n)};$$

and in the same way $q_{m,n}$ may be determined.

The parish books, therefore, if they were accurately kept, and if the population were subject to the conditions we have mentioned, would furnish the information required, and they were used as a first approximation.

60. When the population is not stationary, the preceding results require modification.

Let d_n be the deaths observed at the age n in a given place, b_n the births in that place n years previously; then

$$q_{0,n} = \frac{d_n + 1}{b_n + 101 - n}.$$

Let us suppose that the births m years ago were equal to the total number of deaths now, and that the births increase in a geometric progression, of which the common ratio is r ; then

$$b_n r^n = b_0 = b_m r^m = \Sigma(d) r^m,$$

$$\therefore b_n = \Sigma(d) r^{m-n},$$

and

$$q_{0,n} = \frac{d_n + 1}{\Sigma(d) r^{m-n} + 101 - n}.$$

m must be found, from the consideration that $\Sigma(q_0) = 1$, which, in the present form of the equation, would be troublesome: the labour may be much simplified by observing, that when r does not differ much from unity, this value of $q_{0,n}$ does not sensibly differ from

$$q_{0,n} = \frac{d_n + 1}{(\Sigma(d) + 101 - n) r^{m-n}} = \frac{1}{r^m} \cdot \frac{(d_n + 1) r^n}{\Sigma(d) + 101 - n}$$

In this form $q_{0,n} \cdot r^m$ may be calculated without any previous knowledge of m ; let the value of $q_{0,n} \cdot r^m$ be called D_n ; then

$$r^m \sum (q_n) = \sum (D) = r^m$$

$$m = \frac{\log. \{ \sum (D) \}}{\log. r}.$$

In this manner, when r is taken at 1.005, m is found, from the Chester Observations, Table I., to be somewhere about 40. This result agrees, within the errors of observation, with the period given by an actual comparison of burials and baptisms.

61. The difficulty has been seen of applying mathematical reasoning to the valuation of risks which are connected with the duration of life, but the difficulty with fire and sea insurances is greater, from the number of circumstances which are necessary to be taken into account. If underwriters only insured against total losses, the question would be comparatively easy, for it would only be necessary to ascertain the number of houses out of a given number which are annually burnt to the ground, or the number of vessels which have been lost out of a given number making the same voyage. But by far the greater part of the claims on the underwriters arises from partial losses, as when a house is damaged by fire, or a cargo is partially injured by sea water, &c.

62. In insurances upon lives the observations which we have referred to furnish data which serve to ascertain the value of the risk, but in insurances against loss by fire and sea no similar data have been published, and so various and complicated are the contingencies to which they are subject, that it would be difficult to form any tables of the values of these risks. A register might be made out by each individual underwriter, or company of underwriters, showing the result of their respective experience, which would, doubtless, be useful to them in the conduct of their business. There are many important facts which might be collected and systematically arranged, the knowledge of which would also be useful to the underwriter. Thus a register of the weather in different parts of the world, for a sufficient number of years, would be some guide in ascertaining the relative value of the risk in maritime insurances, as far as it is affected by season. The Society for the Registry of Shipping appoints competent persons to survey every ship which enters any of the principal ports in this kingdom; their detailed report, which contains the name of the ship, captain, owners, her tonnage, the port where built, the materials of which she is made, &c., is published by subscription, and an office is kept for the purpose of posting it up to the latest period. Such a plan adopted in the principal maritime ports of foreign countries would, in the course of time, give a complete register of the commercial shipping of Europe. The preceding remarks apply to maritime insurances, and although the difficulty of obtaining sufficient data to determine the risk in fire insurances is considerable, it is not so great as in sea insurances.

It is foreign to our purpose to offer any further remarks upon these questions, the solution of which is the continual business of the underwriter, and which requires great skill and experience.

63. The principal use that has hitherto been made practically of the theory of probability has been in the solution of questions connected with the valuation of annuities and reversionary payments.

The *method of least squares*, which is of very extensive application in astronomy, was proposed by M. Legendre in 1805;* it has since been shown by Laplace† to be preferable to every other, when the number of

* Nouvelles Méthodes pour la Détermination des Orbites des Comètes.

† Théorie des Probabilités.

equations, which serve to determine any unknown quantities, exceed in number that of the unknown quantities themselves. Our limits do not permit us to give the analysis upon which this proof is founded, we shall, however, endeavour to explain shortly in what the method itself consists.

The data furnished by observation lead in general to equations of this form

$$a - bx + cy + \&c. = 0,$$

in which equation $a, b, c, \&c.$ are known quantities which vary from one equation to another. Each n^{th} observation gives an equation

$$a_n - b_n x + c_n y + \&c. = 0.$$

If the number of equations is equal to that of the unknown quantities x, y, z , they may be determined by linear elimination, but generally the number of equations exceeds that of the unknown equations, and the question arises, of which the solution is in some measure arbitrary, what system of equations, equal in number to that of the unknown quantities x, y, z , is most favourable for their determination.

The *method of least squares*, which Laplace has proved to be the most advantageous, consists in determining the quantities x, y, z , so that the

quantity

$$\begin{aligned} & \{ a_1 - b_1 x + c_1 y + \&c. \}^2 \\ & + \{ a_2 - b_2 x + c_2 y + \&c. \}^2 \\ & \qquad \qquad \qquad \&c. \\ & + \{ a_n - b_n x + c_n y + \&c. \}^2 \end{aligned}$$

is a minimum.

For this purpose it is only necessary to differentiate this sum separately, with respect to each of the variables x, y, z , &c., and put the results separately = 0.

The equation, which is obtained by making x alone vary, is

$$\begin{aligned} & \{ a_1 - b_1 x + c_1 y + \&c. \} b_1 \\ & + \{ a_2 - b_2 x + c_2 y + \&c. \} b_2 \\ & \qquad \qquad \qquad + \&c. \\ & + \{ a_n - b_n x + c_n y + \&c. \} b_n = 0, \end{aligned}$$

or

$$\sum a_n b_n = x \sum b_n^2 + y \sum b_n c_n + \&c. = 0 :$$

each of the quantities x, y, z , &c. furnishes a similar equation, and hence a system of equations results equal in number to those quantities, from whence they may be found by linear elimination. It is thus that many thousand observations may be made to concur in the determination of one element.

Suppose, for example, the question consists in determining with accuracy the elements of the orbit of a planet, after having obtained them nearly by a first approximation.

Let λ be the geocentric longitude observed, and suppose the uncertainty is with respect to two only of the elements e and ϖ , and let $\delta \lambda$ be the error of longitude, or the difference between the longitude of the planet observed at a given time, and that which is deduced by calculation from the approximate elements; $\delta e, \delta \varpi$ the errors of those elements; then by Taylor's theorem, neglecting the squares, &c. of δe and $\delta \varpi$

$$\delta \lambda = \left(\frac{d \lambda}{d e} \right) \delta e + \left(\frac{d \lambda}{d \varpi} \right) \delta \varpi$$

$\left(\frac{d\lambda}{de}\right)$ and $\left(\frac{d\lambda}{d\varpi}\right)$, may be calculated directly, but it is better to infer them by assuming an arbitrary error δe , and by finding the corresponding error $\delta \lambda$.

If a and b be put for $\left(\frac{d\lambda}{de}\right)$ and $\left(\frac{d\lambda}{d\varpi}\right)$ the n^{th} observation furnishes the equation

$$(\delta \lambda)_n = a_n \delta e + b_n \delta \varpi,$$

and the two equations which serve to determine δe and $\delta \varpi$ by the *method of least squares* are

$$\sum (\delta \lambda)_n a_n = \delta e \sum (a_n)^2 + \delta \varpi \sum a_n b_n$$

$$\sum (\delta \lambda)_n b_n = \delta e \sum a_n b_n + \delta \varpi \sum (b_n)^2$$

If only one quantity has to be determined, this method evidently resolves itself into taking the mean of all the values given by observation.

64. We shall now, in conclusion, trace the theory of probability through the different stages of its progress, and mention the principal writers who have assisted in establishing its principles. The estimation of the probability of a future event, by enumeration of the cases supposed to be similarly circumstanced, does not appear to have been attempted until the early part of the seventeenth century; and the very elementary nature of the first problem of which the solution is on record, serves to show that the subject was then altogether new. It is contained in a fragment of uncertain date, written by the celebrated Galileo, who died in 1642. It was addressed to a friend who thought the fact that the points 9 and 10 can both be produced by six different combinations of numbers on three dice difficult to reconcile with the notorious preference given by gamblers to the latter number beyond the former. The difficulty is explained by Galileo, by taking into account the permutations of the component numbers, and the respective chances of these two numbers are thus shown to be as 25 to 27. A correct table is subjoined of the permutations of all numbers which can be thrown on three dice; and it is added, that the consideration of this table will serve for the solution of other problems of the same nature. All this must be admitted to belong to the infancy of the science, nor does it appear that Galileo thought the subject of sufficient interest to call for further inquiry.

65. The history of the theory of probability is generally made to begin several years later, when, in the year 1654, the two following problems were proposed by the Chevalier de Meré to Blaise Pascal.

1st. Two players want each a given number of points towards winning. If they separate without playing out the game, how should the stakes be divided between them?

2d. In how many trials is it an even wager to throw sixes upon two dice?

We are told in one of Pascal's letters to Fermat, that his answer to the latter question, that the odds are against twenty-four trials, and in favour of twenty-five, though undoubtedly correct, scandalized Mr. de Meré, "and made him declare loudly that the science of arithmetic is inconsistent with itself."* The Chevalier thought that the chances being in favour of throwing six in four trials with one die, on which are six different numbers, they ought also to be in favour of throwing two sixes in six times as many, or twenty-four trials with two dice, on which are six times as many, or thirty-six different numbers. Those who have read the preceding pages with any degree of attention, will readily perceive that the Chevalier (whose name it

* Opera Petri de Fermat, Tolosæ, 1679.

has become unusual to mention, without adding that he was a man of talent, but no mathematician) was thus comparing events which have no connection with each other. We shall have occasion presently to mention errors in the principles of this science committed under the sanction of a name of greater influence and authority among mathematicians.

66. The other problem (which afterwards obtained the name of the Problem of Points) appeared to Pascal of greater interest; he communicated it to Fermat, Roberval, and others; none of whom, but Fermat, returned him a satisfactory solution. The correspondence which passed on this subject between Fermat and Pascal appeared in 1679, in the posthumous edition of Fermat's works published at Toulouse, and is now also to be found in the complete edition of Pascal's works. Pascal began by considering the simplest case, in which one of two players, whom we will call A, wants one, and B, the other, two points of winning the game. He determined the required proportion from the consideration that if B win the next point, of which his chance is only $\frac{1}{2}$, these players would be in a condition of equality; and if they were then to separate, the stake ought to be equally divided between them; so that A's present share should be made up of half the stake corresponding to his equal chance of winning the next point, and one quarter corresponding to the present chance of his share, if B were to win the next; making $\frac{3}{4}$ in all. This mode of solution is very elegant, but there is some difficulty in applying the same principle to more complicated questions. It has been adopted by subsequent writers in examining the most difficult parts of the theory, but aided by a method of analysis very far superior to anything with which Pascal or his contemporaries were acquainted. In fact, Pascal was led into an error when he attempted to extend his method to the general problem, which occasioned a short controversy between him and Fermat, who had preferred the more laborious, but also more direct, method of enumerating all the possible ways in which the game might be terminated, and proportioning the division of the stakes according to the numbers which appear favourable to either party. Pascal found some difficulty in admitting that this method of Fermat's is good in every case, and confirmed himself in his mistake in consequence of an erroneous distribution which he made of the permutations of three letters, when he attempted to apply Fermat's method to the case of three players. Fermat pointed out the nature of his error, at least we may presume so from a letter of Pascal's, in which he retracts his former objection, saying, that Fermat's last remarks had been entirely satisfactory.

67. This correspondence was still unpublished, when Huyghens turned his thoughts to the theory of probability, and composed a short Latin treatise, "*De Ratiociniis in Ludo Aleæ*," first printed by Schooten in 1658 at the end of his "*Exercitationes Geometricæ*." This is the earliest regular treatise on the subject, which thenceforward continued to draw more and more the attention of mathematicians. Besides an examination in detail of Meré's questions, Huyghens' treatise contains the enunciation of the general and fundamental theorem of this branch of the science, that if any player have p chances of gaining a sum represented by a and q chances of gaining b , his *expectation* (a term then first introduced) will be rightly represented

by $\frac{p a + q b}{p + q}$. Elementary as this truth may now appear, it was not re-

ceived altogether without opposition.

68. In the year 1670, a Jesuit named Caramuel published the two first volumes of his course of mathematics, under the title of "*Mathesis Biceps*,"

in which he introduced a treatise on the theory of games at dice, which he called *Kubeia*, from the Greek word signifying a die. At the end of it he printed the whole of Huyghens's essay, professing to be ignorant whether it had been already published or not. Nicolas Bernoulli has characterised Caramuel's work as one continued blunder, and indeed this author has fallen into mistakes from which the reading of Huyghens's treatise ought to have preserved him. For instance, when proposing to determine the chances favourable to A and B; if the former (who is to begin) undertakes to throw six before the latter throws seven, upon two dice, his reasoning is as follows: A's chance of throwing six is $\frac{5}{36}$, and therefore, if the stake be 36, the value of his throw may be taken to be five, leaving thirty-one to B, whose chance of winning, if he have a throw, being equal to $\frac{1}{6}$, his first throw also may be bought off for $\frac{1}{6}$ of the remainder, or $5\frac{1}{6}$, leaving $25\frac{5}{6}$, still to be contended for. Caramuel's reasoning is so far correct; but instead of continuing to divide this remainder in the proportion of the chances of the two players, which would have led him to two infinite series, the sums of which would be the just proportions, he argued that the value of the first throw of each player being compensated to him by the share thus allotted to each out of the stake, this second remainder ought to be equally divided between them. Hence he deduced the shares of A and B, if they were to leave the game unplayed, to be respectively $17\frac{1}{2}$ and $18\frac{1}{2}$, instead of $17\frac{2}{3}$ and $18\frac{1}{3}$, which Huyghens had already deduced by a different and more correct analysis.

69. The Journal des Sçavans for 1679 mentions an essay published in the preceding November, by Sauveur, on the advantage of the banker at basset, a game of cards then much played in Paris, and celebrated for the duels it occasioned, to such an extent that it became necessary, solely on that account, formally to prohibit it from being played. This treatise was compiled at the request of the Marquis Dangeau, and brought Sauveur into great favour at court, where he was admitted to explain his theory to Louis XIV.*

70. It has been the misfortune of the science of probability, in consequence of the ready application made of its principles to games at cards and dice, that a prejudice has from the first existed against it as if ministering only to gambling and immorality, and available for no other purpose: accordingly the anonymous writer, who, in 1692, published the first English essay "Of the Laws of Chance," thought it necessary to protest in his preface that the design of his book was "not to teach the art of playing at dice, but to deal with them as with other epidemic distempers, and perhaps persuade a raw squire to keep his money in his pocket." This essay, which was edited, and is generally supposed to have been written, by Motte, the secretary of the Royal Society, contains a translation of Huyghens's treatise, and an application of his principles to the determination of the advantage of the banker at pharaon, hazard, and other games, and to some questions relating to lotteries. The body of the work does not contain any new principle, but there are some remarks in the preface, which, considering the time at which they were written, deserve attention, and show how justly the author had apprehended the nature of his subject. "It is impossible," says he, "for a die with such determined force and direction not to fall on such a determined side, only I do not know the force and direction which make it fall on such a determined side, and therefore I call that chance, which is nothing but want of art."—"There are very few things which we know, which are

* Histoire de l'Académie, 1716.

not capable of being reduced to a mathematical reasoning; and when they cannot, it is a sign our knowledge of them is very small and confused; and where a mathematical reasoning can be had, it is as great folly to make use of any other, as to grope for a thing in the dark when you have a candle standing by you."—"There is likewise a calculation of the quantity of probability founded on experience, to be made use of in wagers about any thing. The yearly bills of mortality are observed to bear such proportion to the live people as 1 to 30 or 26; therefore it is an even wager that one of thirteen dies within a year (which may be a good reason, though not the true, of that foolish piece of superstition,) because at this rate if 1 out of 26 dies, you are no loser."

71. Long before mathematics had been applied to this science, Kepler had formed the same accurate notion of the real meaning of chance as is here expressed by Motte. In his dissertation on the new star which appeared in 1604, after mentioning that some were of opinion it came by chance, and illustrated their meaning by supposing a set of dice to be thrown an infinite number of times, in which it would necessarily happen (according to them) that any required number would at last be thrown, he says that, even in the case adduced, those are very unthinking who look upon the events as entirely without a cause. "Why does six fall in one throw and ace in another? Because this last time the player took up the die by a different side, shut his hand upon it differently, shook it, threw it in a different manner, or because the wind was blowing differently upon it, or it fell on a different part of the board. There is nothing in all this, which is without its proper cause, if any one could investigate such niceties."*

72. The bills of mortality, mentioned in Motte's book, are registers which began to be kept in 1592, of the annual number of deaths in the city of London, which, with some intermission between 1594 and 1603, have been regularly returned to the present time. They were first intended to make known the progress of the plague; and it was not till 1662 that Captain Graunt, a most acute and intelligent man, conceived the idea of rendering them subservient to the ulterior objects of determining the population and growth of the metropolis; as before his time, to use his own words, "most of them who constantly took in the weekly bills of mortality, made little or no other use of them than so as they might take the same as a text to talk upon in the next company; and withal, in the plague time, how the sickness increased or decreased; that so the rich might guess of the necessity of their removal, and tradesmen might conjecture what doings they were like to have in their respective dealings." Graunt was careful to publish with his deductions the actual returns from which they were obtained, comparing himself, when so doing, to "a silly schoolboy, coming to say his lesson to the world (that peevish and tetchie master,) who brings a bundle of rods, wherewith to be whipped for every mistake he has committed." Many subsequent writers have betrayed more fear of the punishment they might be liable to on making similar disclosures, and have kept entirely out of sight the sources of their conclusions. The immunity they have thus purchased from contradiction could not be obtained but at the expense of confidence in their results.

73. These researches procured for Graunt the honour of being chosen a fellow of the Royal Society, and, to pass over Sir Wm. Petty's "Observations," as bearing less directly on our subject, were undoubtedly the cause which led Halley to consider the duration of human life, as he himself owns, in the

* De Stellâ novâ, Pragæ, 1606.

paper published in the Philosophical Transactions in 1693. In this celebrated paper, from which we must date the commencement of real knowledge on the subject of life annuities and insurances in this country, Dr. Halley has made choice of a register of deaths which had been kept at Breslau, in Silesia, and which had been then recently communicated by Neumann (probably at Halley's request,) through Justell, to the Royal Society, in whose archives it is supposed that copies of the original registers are still preserved. Before continuing our notice of this very interesting branch of the subject, we shall mention some other important works which appeared about the same time.

74. James Bernoulli had shown that he was not inattentive to the progress of this science by a problem which, according to the fashion of that time, he had published in the *Journal des Sçavans* for 1685, in the form of a challenge to his contemporaries. This problem was to determine the chances of A and B, who are each to score a certain number of points thrown on the dice, A beginning with one throw, B following also with one; A then being allowed two, and B two; A three, and B three, and so on till the conclusion of the game. Leibnitz answered the question, and undertook to divine the analysis which had conducted Bernoulli to the solution given by him, without demonstration, in the *Journal de Leipsic* for May, 1690.

75. There is also a treatise by Leibnitz, on Complexions, or, as we now more commonly call them, Combinations, but which was not written with any reference to the science of chances, in which this theory is so pre-eminently useful.

The distinctive names which Leibnitz adopts, of combinations, conternations, conquataternations, &c., to express what we now call combinations two by two, three by three, &c., are no longer in use, except among German writers, where we still meet with the terms binions, ternions, quaternions, &c. Leibnitz mentions Clavius as having been the first who gave, in 1583, a clear view of this theory, "not being able to find any traces of it in the Arithmetic of Cardan, to whom Schwenter refers it." Schwenter probably alluded to Cardan's book, "*De Proportionibus*," in which the figurate numbers are mentioned, and their use shown in the extraction of roots, as employed by Stifel, a German algebraist, who wrote in the early part of the sixteenth century.

76. It is not necessary to do more than mention an essay, by Craig, on the probability of testimony, which appeared in 1699, under the title of "*Theologiæ Christianæ Principia Mathematica*." This attempt to introduce mathematical language and reasoning into moral subjects can scarcely be read with seriousness; it has the appearance of an insane parody of Newton's *Principia*, which then engrossed the attention of the mathematical world. The author begins by stating that he considers the mind as a movable, and arguments as so many moving forces, by which a certain velocity of suspicion is produced, &c. He proves gravely, that suspicions of any history, transmitted through the given time (*cæteris paribus*), vary in the duplicate ratio of the times taken from the beginning of the history, with much more of the same kind with respect to the estimation of equable pleasure, uniformly accelerated pleasure, pleasure varying as any power of the time, &c. &c.

77. An anonymous essay in the Philosophical Transactions of the same year, and of not much greater value, may perhaps be attributed to the same author. The theory there laid down is, that a fraction of the doubt which always remains as to the truth of a narrated fact, after any number of concurrent witnesses, is always removed by an additional testimony. This obviously false theory was taken up at a much later period, by Bicquille, in

a work entitled "*Du Calcul des Probabilités*," and by Condorcet in the article "*Probabilité*," in the French Encyclopædia.

78. James Bernoulli was employed in preparing a copious work on the science of chances, till his death in 1705, by which its appearance was delayed during ten years, after which his nephew, Nicolas Bernoulli, found leisure to superintend its publication, though in an unfinished state. In the mean time Montmort published his celebrated work, "*Essai d'Analyse sur les Jeux de Hazard*," the most extensive of the sort which had till then appeared, in which the conditions of all the principal games then in vogue are discussed at considerable length, and the theory of combinations extended and enriched with several new theorems. Immediately after the publication of Montmort's book, Demoivre, a Frenchman naturalized in England after the revocation of the Edict of Nantes, inserted, in the Philosophical Transactions for 1711, a short essay entitled "*De Mensura Sortis*," which, in 1716, he published in a greatly enlarged form, under the title of "*The Doctrine of Chances*." This work is far superior, both in research and elegance, to all which had preceded it; the collection of problems which it contains is far too extensive to admit any complete notice of it being given in this place: it will be sufficient to instance the doctrine of recurring series, and the theorems on the duration of play, which are to be met with in it for the first time, to show how much farther Demoivre carried his inquiries than those who had written on the subject before him. Montmort, who had been a personal friend of Demoivre, thought he had some reason to complain of the manner in which Demoivre spoke of his methods, and a coolness existed in consequence for some time between them.

79. The treatise by James Bernoulli, mentioned above, which was published in 1715, by his nephew Nicolas, and entitled "*Ars Conjectandi*," may be considered as belonging to the earlier period, at which unquestionably it was written. It is divided into four parts; the first consisting of Huyghens's treatise, with a commentary on most of the propositions. The second contains the abstract theory of combinations, in which are many new and elegant results; amongst others, the expression for the sum of the a^n powers of the natural numbers, in which series occur for the first time those remarkable coefficients since become so famous, under the name of Bernoulli's Numbers. A less profitable labour, which is also to be met with in this part of the work, is the curious analysis of the permutations of the celebrated Latin verse, *Tot tibi sunt doles, Virgo, quot sidera cælo*, which are determined to be 3312 in number, without transgressing the laws of Latin metre. It does not appear that James Bernoulli intended to publish this analysis, which was found by his nephew among his loose papers. The third part gives the application of the preceding principles to a variety of questions. The following problem deserves notice, because Bernoulli has given a false, though plausible solution of it, together with the true one, in order, as he says, to show what care is necessary to avoid error in the discussion of these questions. A is to throw a die, and to repeat his throw as many times as the number thrown the first time. If the sum of the points given by the latter set of throws be less than 12, A loses; if more, he wins; if they equal 12, he takes half the stake. His expectation is required. The true value of his expectation is found to be $= \frac{15295}{31104}$: rather less than $\frac{1}{2}$, the false solution is

as follows:—A has $\frac{1}{6}$ chance of throwing an ace at the first trial, in which case he will have but one throw to reckon upon, and as this may equally give him any number from 1 to 6, his chance from it may be reckoned at

$\frac{1 + 2 + 3 + 4 + 5 + 6}{6} = 3\frac{1}{2}$. In the same manner, if he throw a deuce

the first time, he cannot, in the two throws which this secures to him, score less than two or more than 12, and it is easy to see that the chances of each number equidistant from the mean throw, 7, are equal; 7 is, therefore, his expectation on this supposition. If 3, 4, 5, or 6 be thrown the first time, his expectation on each will similarly be found to be the means between 3 and 18, 4 and 24, 5 and 30, 6 and 36, or $10\frac{1}{2}$, 14, $17\frac{1}{2}$, and 21 respectively, so that the expectation of his throws will be $\frac{1}{6} \{ 3\frac{1}{2} + 7 + 10\frac{1}{2} + 14 + 17\frac{1}{2} + 21 \} = 12\frac{1}{4}$ points, from which it would appear that the odds are in his favour. From the manner in which Bernoulli dwells upon the plausibility of this solution, it seems not improbable that he had been himself deceived in the first instance, by the erroneous view which he here exposes to his readers. The error consists in not multiplying each chance separately by the gain or loss it could occasion to the player. The fourth part of Bernoulli's book, which had been expected with the greatest impatience, but which unfortunately was left incomplete at the time of the author's death, was intended to contain an application of the theory of probabilities to the examination of questions connected with civil and domestic life. Imperfect as this has been left, it must, undoubtedly, be considered as the foundation of whatever has been since done in this branch of the science. Bernoulli seems to have been the first to introduce the term "moral certainty," on which we have already remarked in the body of the treatise. He also, in imitation of Aristotle,* distinguishes between what he calls free and casual contingencies, classing under the former all those contingent events which depend on the will of a rational being. He also inculcates strongly the fundamental principle, from the neglect of which so much error and confusion have arisen, that "contingency or chance has reference merely to the state of our knowledge." After explaining the principal rules by which we should be guided in our investigations, he proceeds, among other things, to examine the method of determining probabilities *à posteriori*, that is to say, by often-repeated experiment: and shows, in the noted theorem which still bears his name, that the probability of attaining to the knowledge of the probability of an unknown event constantly increases with the number of experiments made upon it, so that we can always, by multiplying our experiments, reach a degree of probability as near certainty as we choose to fix upon, that the error of our estimation lies within given limits. With this proposition the work abruptly terminates. At the end of Bernoulli's book is an anonymous letter on the game of tennis, the author of which is not certainly known, but the theory, language, and notation, strongly mark it to belong, if not to James Bernoulli himself, at any rate to some one trained in the same school, and fully imbued with his ideas and opinions.

80. The first great step beyond what Bernoulli had suggested, showing the use to be made of experiments in estimating unknown probabilities, is contained in a posthumous paper by Bayes, inserted in the Philosophical Transactions for 1763, through the means of Dr. Price, so well known by his own publication on the subject of annuities. The problem which Bayes proposes to solve in this paper is the following:—Given the number of times in which an unknown event has happened and failed. Required the chance that the probability of its happening in a single trial lies somewhere between any two degrees of probability that can be named. When disencumbered of the geometrical form under which it was then the fashion to represent inte-

* Physics, lib. ii. cap. 6.

grals, Bayes's theorem is in substance, that if α and A be any two fractions between 0 and 1, the probability that the happening of an event which depends on unknown causes, but which has been already observed to happen p times exactly in $p + q$ experiments, has a degree of probability not greater than α ,

and not less than A , will be equal to $\frac{\int x^p \cdot (1-x)^q \cdot dx}{\int x^p \cdot (1-x)^q \cdot dx}$, the integral in the

numerator being taken between the limits α and A , and in the denomination between 0 and 1. This theorem rests on the more elementary one, that the probability of the existence of a supposed cause of any observed event is proportional to the probability of the event, derived from the supposition of that cause being known to be true. The rest of the paper is taken up with different methods of approximating to the values of this integral within required limits, with which we need not here occupy ourselves. Bayes, or perhaps we should rather say Price, seems to have confounded the probability thus determined, with the probability that an event which has been already observed m times in $p + q$ experiments, will happen again. The difference between the two is obvious; and the reader has already seen the process for determining the latter.

81. The celebrated question, known as the Petersburg Problem, has been already mentioned: this name was given, on account of its having been proposed by Daniel Bernoulli in the Petersburg Transactions; much of the discussion it occasioned might have been spared if the real meaning of the results of the calculations of probability had been kept steadily in view. The difficulty of that question was supposed to consist in this, that no person could be supposed willing to pay the amount which the condition of the game pointed out as equal to his expectation, which after all amounts to no more than saying, that a game can be contrived of too ruinous a nature for the taste even of the most inveterate gamester. It has been well remarked by Buffon, that the science of probabilities never professed to make the condition of a gambler the same as if he did not play; it only indicates the events of which we have most reason to expect the recurrence. Condorcet took away everything appearing paradoxical from the result, by an observation he made in a memoir on this subject in 1784. "It may often happen," says he, "that a reasonable man A will refuse to give B a sum b for the chance

n of gaining a , although a be greater than $\frac{b}{n}$; and the reason may be, because

A has not the opportunity of repeating the venture often enough to repair the loss which may accrue to him in a single trial, and because the sum ventured may be so great that its loss would occasion him an inconvenience, not at all counterbalanced by the advantages he could derive from his contingent gain.* These are motives for inducing A to refrain from venturing, but cannot be made elements of the calculation as between him and a speculator B on the opposite event. No underwriter diminishes, or ought to diminish, his premium, on account of the small fortune of the party whose indemnity he guarantees.

82. There have been, however, some writers of great celebrity, who have taken an opposite view of this question; and although there can be no doubt of the fallacy of their reasonings, a notice of them must not be omitted in an historical account. D'Alembert instanced this Petersburg problem as tending to throw doubt on the universally admitted rule, that in every game the

* Histoire de l'Académie Royale, 1784

deposit ought to be inversely proportional to the risk, which therefore he proposed to examine. The result of his examination was, that, in his opinion, a very small probability should be considered as none, and might be entirely disregarded. He illustrates this, by supposing "Peter to play with James, on this condition, that if a tossed halfpenny fall head, in the hundredth toss, and not before, he is to receive from James 2^{100} crowns, in which case the ordinary rule would determine Peter to give James one crown at the beginning of the game. I say, Peter ought not to give this crown, because he will lose it *certainly*,—because head will fall *certainly* before the 100th toss, although *not necessarily*."* Again, he says, "We must distinguish between what is *metaphysically*, and what is *physically* possible. In the first class is everything whose existence does not imply an absurdity; in the second, everything whose existence not only does not imply an absurdity, but even implies nothing too extraordinary, and beyond the daily course of events. It is *metaphysically* possible that two sixes may be thrown on two dice a hundred times in succession; but it is impossible *physically*, because it has never happened, and never will happen." In the same memoir he advances the opinion, that the oftener an event has already happened in succession, as, for instance, the oftener a halfpenny has already successively fallen head, the less is the probability that it will fall head in the next trial. It is rather singular that he did not from the first observe, that the extension of this principle to its utmost limit, namely, to the case in which the halfpenny should always have fallen head, would oblige us, according to his own rule, to class the arrival of tail among the things physically impossible, which never have happened, and which therefore we have no reason to believe ever will happen; and yet, according to his present argument, it will be precisely in this case that tail will be most likely to happen in the next trial. A sounder principle might have suggested to him, that so far as our judgment is determined solely by the supposed repetition, we should be disposed, on that very account, to expect rather the recurrence of head, the oftener it has already appeared, because that very inequality would seem to point out an inequality in the sides favouring that event. The real cause why this effect in ordinary cases is not produced, is that we tacitly refer to, and are influenced by, the great number of times in which head and tail have followed each other indiscriminately, as well as to all the other reasons we have for believing the two sides similarly circumstanced, and the probability arising from this of the perfect indifference of the sides is far from being outweighed by the results of a few sequences. Another error, not less extraordinary, was made by the same celebrated writer in the consideration of repeated experiments. If a player undertook with a halfpenny to throw head in two trials, D'Alembert observed that there were but three possible cases: head in the first trial; tail in the first, and head in the second; tail in both. He, therefore, asserted that the chance in favour of the player should be taken at $\frac{2}{3}$, and not $\frac{3}{4}$, according to the ordinary rule, in which the combination of head thrown twice is taken into the account, "because as soon as head is thrown the first time, it is as useless as ridiculous to throw the piece again; for the result of the second throw has no effect upon the game, and is as foreign to it as if, instead of throwing the piece again, the players had gone to Rome." D'Alembert's mistake lies in supposing that his opponents were not as much aware of this as himself. It is true that in this game there would be only three possible cases, but they would not be similarly circumstanced, which it is necessary that they should be, before an enumeration of them can furnish us

with a measure of probability; and the superior probability of head falling the first time, as compared with either of the other two combinations mentioned by him, can be accurately allowed for only by taking the sum of all the ways in which one of two conflicting events may occur in two experiments. As to D'Alembert's farther observations on the possible difference in the law of facility of sequence of any set of events, the only answer that can be given is, that when any such difference is observed, it ought undoubtedly to form an element of the calculation of probabilities; but to suppose, as he seems to have done, that until such law is determined we are unable to estimate them, is to misapprehend entirely the meaning of the results we profess to deduce from it.

83. Laplace inserted several memoirs on the subject of probabilities in the Memoirs of the French Academy, which he afterwards embodied in his splendid work, "*Théorie Analytique des Probabilités*," in which he also gave the calculus of generating functions. The principal application which he there makes of it, is to the solution of the equations of differences to which he reduces the questions of probability, by considering how the chances vary at each succeeding step. This is, in fact, the method, of which one of the simplest instances may be seen in Pascal's solution of the problem of points, although it is there put in rather a different form. Laplace's work contains the application of the theory to a variety of most intricate and interesting questions; and independently of the results he has obtained, this book is in the last degree valuable, from the specimens of refined and beautiful analysis it affords. Besides the authors here mentioned, a great number have composed works on the subject of probability, not very remarkable for the introduction of new principles or methods. The principal attention of English writers has been directed to compilations on the subject of annuities; and it is very much to be regretted that, with a few exceptions, a wanton and barbarous scheme of notation should conceal whatever may be valuable in their writings, nearly as much as if they were written in an unknown language.

84. The first complete tables of life annuities constructed in this country from Halley's and Demoiivre's theory were by John Richards, of which the edition in the British Museum is dated 1730.* It contains the following short but curious historical sketch of the erroneous methods it was intended to supersede. "In valuing three lives absolute in copyhold estates, the general rule was, formerly, to reckon it as a lease of twenty-one years certain, which, by the tables for that purpose, at 5 per cent., is worth, in ready money, 12·82 years value and no more for three lives, the first of which they esteemed worth 6 years, the second 4, and the third 2·82; so that to renew two lives in reversion of one would cost 7 years, or one in reversion of two, three years' value. And this was the constant expectation, what age soever the life or lives *in esse* were of at the time of renewing. Whether this estimation of the value of leases arose from the Act of 32 Henry VIII., or was in use before, I know not; but it is there enacted, that a lease for more than twenty-one years, or three lives, is void: by which it seems as though three lives and twenty-one years were reckoned an equal duration,† the contrary of which was very evident even before any experiments were made concerning the duration of life, and therefore this way of computing was corrected by another, which is likewise in several respects erroneous. By this other method (which is still in practice) a lease for one life may be reckoned equivalent to one of 9, 10, 11, or 12

* Gentleman's Steward Instructed. London, 1730.

† It seems more likely that the framers of the Act were guided by the pre-existing popular prejudice, than that they gave rise to it.

years, &c.; that for two lives at 17, 19, 21, or 23 years, &c.; that for three lives as a lease of 24, 27, 30, or 33 years, &c.; and though this latter method is a little more plausible than the former, on account of the steward's liberty of choosing which of these proportions he pleases, yet I cannot see any analogy that this bears to the reason of the thing. So that at best it is but only groping in the dark."

85. The old tables, to which Richards here alludes, are frequently referred to in the treatises of that day, under the name of *Æcroid's Tables*: the time at which their author lived was not even then accurately known, but is conjectured to have been about the time of Henry VIII.'s reign, as the interest of money when they were compiled was rather more than 10 per cent. The slightly improved method which Richards mentions as then still in practice, was suggested in an anonymous treatise entitled "*Tables for renewing and purchasing Leases of Lives*," first published at Cambridge about 1695. This is the book which is often cited as Newton's "*Treatise on Life Annuities*," but with which he was no otherwise concerned than as it bears his approbation as Lucasian Professor on the title-page, which is couched in the following terms:—"The method of this book is correct, and the numbers computed with sufficient accuracy, as I judge from re-calculating several of them."* There are no other traces that Newton meddled with this subject. In this treatise *Æcroid's* tables are said to have been calculated at 11*l.* 3*s.* 6 $\frac{6}{7}$ *d.* per cent. The tables which Richards published are calculated at different rates, from 4 to 8 per cent., and are given for all ages, from five to five years on one life, and from ten to ten on two, and on three joint lives. Since that period the principal improvement of such tables has consisted in more careful and extensive registers of deaths to furnish the requisite data for their construction: the only addition to their theory has been in the suggestion, that such registers ought only to be considered as furnishing the results of a number of experiments: consequently, that the ratios given by them ought not to be immediately employed as probabilities *à priori*, but used as in the theory given in page 37.† An excellent account may be found of the authors who have treated of questions connected with annuities in the article *MORTALITY*, in the supplement to the "*Encyclopædia Britannica*."

86. The first tables of mortality were, in fact, formed by Dr. Halley from the registers of Breslau in Silesia, and are given in the *Transactions of the Royal Society* for 1693, art. 1. The next author who treated of this subject is William Kerseboom, who published at the Hague, in 1730, a tract, entitled, "*Eerste Verhandelng tot een Proeve om te weeten de probable menigte des volks in de provintie van Hollandt en Westvrieslandt*." An account of this work is given by Mr. Eames in the *Philosophical Transactions* for 1738. In 1742 Kerseboom published two other tracts upon the same subject, an account of which is given by Mr. Van Rixtel in the *Philosophical Transactions* for 1743. Kerseboom's table of mortality was formed from registers of many thousand life annuitants in Holland and West Friesland, which had been kept there from 125 to 130 years previous to the date of his publication.

87. M. Desparcieux published, in 1746, his "*Essai sur les Probabilités de la Durée de la Vie Humaine*," in which he gave several tables of mortality, constructed from the lists of nominees in the French tontines and from the

* Methodus hujus libri rectè se habet; numerique, ut ex quibusdam ad calculum revocatis, judicio, satis exactè computantur. Is. Newton, Math. Prof. Luc.

† When insurances on lives began to be established in the beginning of the last century, their true principles were so little understood or acted upon, that every insurer, of whatever age he might be, paid the same premium, the only restriction being, that his life should lie between five and sixty years.

mortuary registers of different religious houses. The Northampton Tables, as they are called, were long the only tables in use in this country; they were given by Dr. Price in his "Observations on Reversionary Payments," which was published in 1771: the following extract will serve to explain the manner in which they were formed, vol. 2, p. 94. "In this town (Northampton), containing four parishes, namely, All Saints', St. Sepulchre's, St. Giles's, and St. Peter's, an account has been kept ever since the year 1741 of the number of males and females that have been christened and buried, dissenters included, in the whole town. And in the parish of All Saints, containing the greatest part of the town, an account has been kept since 1735 of the ages at which all have died there.

Christened	{ males 2152 females 2066 }	4220	Buried	{ males 2377 females 2312 }	4689
Of these died					
Under two years of age	1529		50 and 60	384	
Between 2 and 5	362		60	378	
5	201		70	358	
10	189		80	199	
20	373		90	22	
30	329				
40	365		Total	4689	

"The XVIIth Table in this volume is the genuine table of observations for Northampton, from which may be calculated the true probabilities and values of lives in that town." To the preceding paragraph is added this note. "In the fourth edition of this treatise the following corrections were made in this table; first, the table printed in the first three editions having been formed from the Northampton bills for 36 years, this table was rendered a little more correct in consequence of being formed from the same bill for 46 years. Secondly, the bills give the number dying annually between 20 and 30 greater than between 30 and 40; but this being a circumstance which does not exist in any other register of mortality, and, undoubtedly, owing to some accidental and local causes, the decrements were made equal between 22 and 40; preserving, however, the total of deaths between 20 and 40 the same that the bills give them. Thirdly, the bills giving only the totals of deaths under 2 years of age and between 2 and 5, the proportions of deaths for every particular year between 2 and 5, and for every quarter of a year after birth till one year of age, were made the same nearly that the Chester register makes them."

Such are the alterations which Dr. Price made in the data which were presented to him, and he reduced the table of mortality to the radix 11650; why he chose this number in preference to any other we have not been able to discover. Dr. Price has also neglected to inform us what method he made use of to interpolate the living at those ages, between every ten years, which are not given by the observations.

88. Such is the history of the Northampton Tables. We shall now quote Dr. Price's observations on the Chester Tables.

"Chester is a healthy town, of moderate size, where the births had for many years a little exceeded the burials; and the register to which I refer had the particular advantage of being under the direction of Dr. Haygarth, its founder as well as conductor. As it gives an accurate account of the distempers of which all the inhabitants die in every season and at every age, it contains much physical instruction; but my views lead me only to take notice of that part of it which gives the law according to which human life

"wastes in all its different stages, both among males and females. Concerning these tables it is necessary I should make the following observations.

"The table for females must be considered as particularly correct, because the number of females born and buried in Chester are very nearly equal. "On the contrary, the number of males born being about an eighth greater than the number buried, it follows that, in the table of decrements for males the number of the living, and, consequently, the probabilities of living at every age for the last 10 or 15 of the first years of life, must be given too low."

89. Dr. Price characterises Dr. Haygarth as an able and ingenious physician, and it appears that he made a survey of the ten parishes of Chester with great care in 1774, at which time the population consisted of 6697 males and 8016 females,

The table of mortality formed by Dr. Haygarth, from the observations at Chester, is given at length in Dr. Price's *Treatise on Reversionary Payments*, vol. ii. It distinguishes the sexes, which the Northampton Table does not; it contains 4006 observations, while Carlisle only furnished to Mr. A. Milne 1840, a number too small to admit of subdivision. The Chester observations were, probably, communicated to Dr. Price after those at Northampton, which may have been the reason why he made more use of the latter, probably also as they were rather the more favourable of the two, he wished to keep on the safe side. Dr. Haygarth has given different tables of observations in the *Transactions of the Royal Society*, in which the deaths are classed from 5 years to 5 years, and the diseases by which they were occasioned are also stated. As Dr. Haygarth was a physician practising in Chester at the time he collected these observations, he had great opportunities of obtaining exact information. Dr. Haygarth states distinctly, that all the numbers dying at every age were taken just as the register gave them, except in the case of 22 females above the age of 80, of whom the age was not closely specified.

It is much to be regretted that no registry of births, marriages, and deaths exists in this country, which would furnish very valuable statistical information. The act of the 52 Geo. III., for the better regulating and preserving parish and other registers of births, baptisms, marriages, and burials in England, has, indeed, a clause by which any person making false entries, or false copies of entries, is to be adjudged guilty of felony, and transported for fourteen years. Another clause which follows immediately after, directs that one half of the penalties levied in pursuance of this act shall go to the informer and the remainder to the poor of the parish. The returns of the weekly burials, which are made by the clerks within the bills of mortality, do not appear to be sent regularly to the parish clerk's office, so that it is difficult to ascertain the effect of the seasons or the weather in producing deaths. In these returns the number of marriages is not stated, nor are the burials of males and females discriminated.

90. We have before alluded to the error which arises in a table of mortality considered as furnishing the probabilities of life, from the supposition that the population has been stationary during the century previous to the observation, and we have explained the method which should be adopted in order to get rid of this when we know the actual increase. The accuracy of the Chester observations is such as to make it desirable to take into account this circumstance. The births in all England in the year 1700, according to the Parliamentary Reports, were 138,979, and in 1780, 201,310, making the mean annual rate of increase 1.0046; in the county of Chester, taken by itself, in 1700, they were 2650, and in 1780, 4592, making the mean

annual rate of increase 1.0061. We may, therefore, suppose the births to have increased in geometrical progression, during the century previous to Dr. Haygarth's observations, at the rate of 1.005, without fear of an error which can disturb the accuracy of our results. The deaths at the same time were about equal to the deaths forty years previously, a result which is confirmed by direct calculation. These data are sufficient to correct the table of mortality, and it is obvious that the error of our hypothesis is altogether of an order to be neglected, for a small inequality in the rate of increase will not affect the result, unless it be of long period.

91. Table (1), page 56, contains the observations of deaths by Dr. Haygarth at Chester.

Table (2) has been calculated upon this hypothesis, namely, that the births increased during the century previous to Dr. Haygarth's observation in a geometric progression, of which the common ratio was 1.005.

Table (3) shows the values of annuities on such lives.

Table (4) shows the values of single premiums for insuring £1. payable at death; and

Table (5) shows the values of annual premiums for insuring £1. payable at death.

Tables (3), (4), and (5), have been calculated from Table (2) by Mr. David Jones of the Royal Exchange Assurance Company.

92. Mr. Finlaison has recently published very extensive tables of mortality, formed from the government tontines and annuitants, which are rendered extremely valuable by the accuracy of the materials from which they have been deduced, and by the very great care and attention which have been bestowed on them by the author.

Mr. Finlaison (in his valuable report to the Lords of the 'Treasury) explains at length the manner in which he made use of the records of the tontines. Mr. Finlaison observes, "that the facts shown in these observations, bear conclusive testimony that the rate of mortality in England has, during the last century, diminished in a very important degree, on each sex equally, but not by equal gradations, nor equally at all periods of life; and that while in regard to the males it seems in early and middling life to have remained for a long time as it stood about fifty years ago, in respect of the females it has during the same time visibly and progressively diminished to this day by slight but still sensible gradations."

Whether life has generally improved or not, it is certain that epidemics are of much less frequent occurrence now than they were formerly, which circumstance must have a very favourable influence.

93. Mr. Griffith Davies has published tables of annuities taken from statements of Mr. Morgan, in his addresses to the general courts of the Equitable Society, and in notes added by him to the latter editions of Dr. Price's "Observations on Reversionary Payments." In Mr. Morgan's address to the general court held on the 24th April, 1800, he stated that the decrements of life among the members of the Equitable for the preceding thirty years, had been to those of the Northampton

from 10 to 20 as 1 to 2	from 40 to 50 as 3 to 5
20 .. 30 .. 1 .. 2	50 .. 60 .. 5 .. 7
30 .. 40 .. 3 .. 5	60 .. 80 .. 4 .. 5

which statement is confirmed in his subsequent addresses. In a recent publication, Mr. Morgan admits that he was not then aware of the great number of instances in which there are several policies upon one and the same life, but this circumstance cannot very materially affect Mr. Davies's

calculations. Such statements as these, although not so detailed as might be wished, sufficiently prove that in the Equitable Society, the rate of mortality is considerably less than that given by the Northampton Table.

94. Mr. Babbage, in a work entitled "A Comparative View of the various Institutions for the Assurance of Lives," has examined the advantages which are presented by the different insurance offices in this metropolis. It is not our intention to follow him in this inquiry, which is rendered very intricate from the complicated manner in which some of the offices make returns to the assured of a portion of the immense profits which they accumulate, instead of charging, which is obviously a simpler method, the real value at first.

The offices which use the Northampton Table as the basis of their calculations are the

Albion,	Law Life,
Atlas,	London Life Association,
Eagle,	Pelican,
Exchange, Royal,	Provident,
Globe,	Rock,
Imperial,	Westminster.

95. The doctrine of fire and sea insurances seems to be at present nearly in the same state in which that of life insurances was at the beginning of the last century. Montucla mentions a treatise on the subject of ship insurances by Montandouin, a merchant of Nantes, of which he speaks in terms of commendation, and seems to intimate that the publication of this work drew the attention of the Académie des Sciences. That learned body proposed the theory of maritime insurances as a prize question in 1783, 1785, and in 1787, but without much success. None of the essays received were thought to deserve the prize, but, on the last occasion, half the prize of 6000 livres was divided between Lacroix and Bicquilly, two of the competitors. The remaining 3000 livres were intended to be offered, in 1791, for the best tables of premiums for maritime insurance, but the revolution intervened to prevent any adjudication of it. All our present knowledge on this subject seems to be confined to the personal experience of the underwriters.

96. Another extensive application of the theory of probability has been made by Condorcet, at the instance of the enlightened financier Turgot. In a work entitled "Essai sur la Probabilité des Décisions," Condorcet has investigated and compared the probabilities of error in the decisions pronounced by tribunals more or less numerous, and various schemes for determining the verdict. Connected with the same question is the inquiry into the best mode of collecting votes in elections, in which more than two conflicting propositions are presented to each elector. Condorcet has examined in detail the respective advantages and disadvantages of electing by a simple majority, by a majority exceeding a given number, or by a number proportional to the whole number of voters, with many others. He arrives at the conclusion that the best mode of electing is by a majority not below a given number of a single assembly.

TABLE I.—DR. HAYGARTH'S OBSERVATIONS at CHESTER, as given by Dr. Price in his work on Reversionary Payments, Vol. ii.

Age.	MALES.		FEMALES.		Age.	MALES.		FEMALES.	
		Deaths.		Deaths.			Deaths.		Deaths.
0	1927	438	2139	368	50	558	16	752	15
1	1489	180	1771	181	51	542	16	737	14
2	1309	107	1580	127	52	526	16	723	14
3	1202	67	1463	77	53	519	16	709	14
4	1135	34	1386	53	54	494	15	695	14
5	1101	30	1333	30	55	479	14	681	13
6	1071	24	1303	10	56	465	14	668	13
7	1047	18	1285	11	57	451	14	655	13
8	1029	11	1274	9	58	437	14	642	15
9	1018	8	1265	7	59	423	16	627	15
10	1010	6	1258	6	60	407	19	612	20
11	1004	5	1252	6	61	388	22	592	25
12	999	5	1246	7	62	366	22	567	25
13	994	6	1239	7	63	344	22	542	25
14	988	6	1232	8	64	322	20	517	21
15	982	7	1224	9	65	302	16	496	17
16	975	9	1215	10	66	286	13	479	15
17	966	10	1205	11	67	273	11	464	15
18	956	11	1194	12	68	262	11	449	16
19	945	11	1182	11	69	251	13	433	20
20	934	11	1171	10	70	238	16	413	25
21	923	11	1161	10	71	222	22	388	30
22	912	12	1151	10	72	200	22	358	30
23	900	12	1141	11	73	178	21	328	30
24	888	12	1130	12	74	157	18	298	27
25	876	13	1118	16	75	139	15	271	23
26	863	13	1102	16	76	124	12	248	22
27	850	13	1086	16	77	112	11	226	21
28	837	12	1070	16	78	101	11	205	21
29	825	11	1054	16	79	90	10	184	21
30	814	10	1038	13	80	80	10	163	21
31	804	9	1025	13	81	70	10	142	21
32	795	10	1012	13	82	60	9	121	21
33	785	10	999	13	83	51	8	100	21
34	775	10	986	13	84	43	7	79	18
35	765	11	973	14	85	36	6	61	12
36	754	11	959	14	86	30	5	49	8
37	743	12	945	14	87	25	4	41	6
38	731	12	931	14	88	21	4	35	4
39	719	13	917	15	89	17	3	31	4
40	706	13	902	15	90	14	3	27	4
41	693	14	887	15	91	11	3	23	4
42	679	14	872	15	92	8	3	19	4
43	665	15	857	14	93	5	2	15	4
44	650	15	843	15	94	3	2	11	4
45	635	15	828	15	95	1	1	7	3
46	620	15	813	15	96			4	3
47	605	15	798	15	97			1	1
48	590	16	783	16					
49	574	16	767	15					

TABLE II.—TABLE of MORTALITY formed from the **Observations of Dr. Haygarth at CHES-TER**, corrected for the increase of Population during the Century previous to the Observations upon the supposition that the Births increased yearly in a geometrical progression of which the common ratio was 1.005.

Age.	MALES.		FEMALES.		Age.	MALES.		FEMALES.	
	Living.	Deaths.	Living.	Deaths.		Living.	Deaths.	Living.	Deaths.
0	10000	1778	10000	1351	50	3675	92	4302	77
1	8222	739	8649	670	51	3583	93	4225	72
2	7483	445	7979	474	52	3490	94	4153	73
3	7038	283	7505	291	53	3396	94	4080	73
4	6755	149	7214	203	54	3302	89	4007	73
5	6606	133	7011	118	55	3213	84	3934	69
6	6473	108	6893	73	56	3129	84	3865	69
7	6365	84	6820	47	57	3045	85	3796	70
8	6281	55	6773	40	58	2960	85	3726	80
9	6266	42	6733	32	59	2875	97	3646	80
10	6184	35	6701	28	60	2778	113	3566	105
11	6149	30	6673	29	61	2665	131	3461	130
12	6119	30	6644	33	62	2534	131	3331	131
13	6089	35	6611	33	63	2403	131	3200	132
14	6054	34	6578	37	64	2272	121	3068	112
15	6020	40	6541	41	65	2151	100	2956	93
16	5980	48	6500	45	66	2051	83	2863	83
17	5932	53	6455	49	67	1968	72	2780	83
18	5879	57	6406	54	68	1896	72	2697	89
19	5822	57	6352	50	69	1824	84	2608	110
20	5765	58	6302	46	70	1740	102	2498	136
21	5707	59	6256	46	71	1638	137	2362	163
22	5648	63	6210	46	72	1501	137	2199	164
23	5585	63	6164	51	73	1364	132	2035	165
24	5522	63	6113	55	74	1232	116	1870	150
25	5459	69	6058	72	75	1116	98	1720	129
26	5390	69	5986	72	76	1018	81	1591	124
27	5321	69	5914	73	77	937	76	1467	120
28	5252	64	5841	73	78	861	76	1347	120
29	5188	61	5768	73	79	785	70	1227	121
30	5127	56	5695	61	80	715	71	1106	121
31	5071	51	5634	61	81	644	71	985	122
32	5020	57	5573	62	82	573	65	863	123
33	4963	57	5511	62	83	508	59	740	123
34	4906	57	5449	62	84	449	54	617	107
35	4849	62	5387	67	85	395	47	510	74
36	4787	62	5320	67	86	348	42	436	52
37	4725	68	5253	67	87	306	35	384	41
38	4657	68	5186	68	88	271	36	343	30
39	4589	73	5118	73	89	235	30	313	30
40	4516	73	5045	73	90	205	29	283	31
41	4443	79	4972	73	91	176	30	252	31
42	4364	79	4899	73	92	146	30	221	31
43	4285	84	4826	69	93	116	24	190	32
44	4201	85	4757	74	94	92	24	158	32
45	4116	85	4683	75	95	68	17	126	26
46	4031	86	4608	75	96	51	7	100	26
47	3945	86	4533	75	97	44	7	74	14
48	3859	92	4458	80	98	37	7	60	8
49	3767	92	4378	76	99	30	7	52	8

TABLE III.—PRESENT VALUE OF AN ANNUITY OF 1*l.* payable during the Life of a Male or Female. CHESTER RATE OF MORTALITY.

Age. <i>m</i>	3 per cent. $a_m, r = \frac{1}{1.03}$		4 per cent. $a_m, r = \frac{1}{1.04}$		5 per cent. $a_m, r = \frac{1}{1.05}$		6 per cent. $a_m, r = \frac{1}{1.06}$		Age. <i>m</i>
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
0	16.0427	17.7180	13.3465	14.6363	11.3697	12.4024	9.8755	10.7291	0
1	19.0973	20.1002	15.8820	16.5994	13.5198	14.0566	11.7318	12.1496	1
2	20.6128	21.4417	17.1484	17.7130	14.5978	14.9989	12.6638	12.9597	2
3	21.5735	22.4798	17.9620	18.5850	15.2968	15.7434	13.2723	13.6049	3
4	22.1517	23.0882	18.4631	19.1081	15.7346	16.1974	13.6581	14.0030	4
5	22.3308	23.4694	18.6347	19.4478	15.8939	16.4997	13.8041	14.2729	5
6	22.4734	23.5873	18.7783	19.5720	16.0315	16.6213	13.9330	14.3883	6
7	22.5404	23.5549	18.8608	19.5727	16.1187	16.6392	14.0196	14.4149	7
8	22.5271	23.4299	18.8776	19.4969	16.1510	16.5924	14.0595	14.3858	8
9	22.4078	23.2762	18.8061	19.3972	16.1084	16.5255	14.0348	14.3395	9
10	22.2368	23.0890	18.6912	19.2694	16.0286	16.4346	13.9779	14.2725	10
11	22.0343	22.8815	18.5495	19.1243	15.9259	16.3288	13.9009	14.1923	11
12	21.8066	22.6708	18.3861	18.9761	15.8042	16.2200	13.8072	14.1095	12
13	21.5715	22.4675	18.2157	18.8336	15.6761	16.1160	13.7077	14.0307	13
14	21.3471	22.2576	18.0539	18.6852	15.5551	16.0067	13.6142	13.9472	14
15	21.1117	22.0549	17.8821	18.5426	15.4251	15.9021	13.5125	13.8676	15
16	20.8905	21.8599	17.7217	18.4059	15.3047	15.8026	13.4191	13.7924	16
17	20.6913	21.6727	17.5797	18.2756	15.1999	15.7084	13.3393	13.7218	17
18	20.5041	21.4936	17.4478	18.1520	15.1038	15.6200	13.2672	13.6564	18
19	20.3260	21.3266	17.3233	18.0385	15.0143	15.5404	13.2009	13.5989	19
20	20.1428	21.1407	17.1944	17.9089	14.9209	15.4468	13.1313	13.5292	20
21	19.9580	20.9350	17.0639	17.7622	14.8261	15.3385	13.0606	13.4464	21
22	19.7714	20.7228	16.9318	17.6096	14.7301	15.2247	12.9889	13.3588	22
23	19.5943	20.5038	16.8077	17.4506	14.6410	15.1052	12.9235	13.2660	23
24	19.4124	20.2951	16.6795	17.3001	14.5485	14.9928	12.8552	13.1792	24
25	19.2255	20.0937	16.5469	17.1554	14.4522	14.8854	12.7838	13.0968	25
26	19.0558	19.9455	16.4290	17.0562	14.3691	14.8176	12.7243	13.0496	26
27	18.8819	19.7939	16.3078	16.9544	14.2831	14.7479	12.6626	13.0010	27
28	18.7039	19.6426	16.1829	16.8530	14.1943	14.6789	12.5987	12.9533	28
29	18.5027	19.4879	16.0378	16.7489	14.0879	14.6079	12.5194	12.9042	29
30	18.2845	19.3298	15.8778	16.6422	13.9683	14.5349	12.4285	12.8538	30
31	18.0410	19.1253	15.6952	16.4953	13.8287	14.4268	12.3196	12.7726	31
32	17.7710	18.9147	15.4889	16.3428	13.6677	14.3140	12.1915	12.6871	32
33	17.5144	18.7013	15.2934	16.1878	13.5158	14.1988	12.0714	12.5996	33
34	17.2493	18.4815	15.0900	16.0268	13.3565	14.0784	11.9444	12.5076	34
35	16.9758	18.2550	14.8780	15.8597	13.1892	13.9524	11.8098	12.4106	35
36	16.7115	18.0395	14.6736	15.7019	13.0280	13.8345	11.6806	12.3210	36
37	16.4387	17.8177	14.4608	15.5382	12.8589	13.7115	11.5439	12.2268	37
38	16.1791	17.5893	14.2588	15.3685	12.6990	13.5831	11.4152	12.1278	38
39	15.9114	17.3577	14.0489	15.1956	12.5315	13.4518	11.2794	12.0263	39
40	15.6537	17.1371	13.8470	15.0321	12.3708	13.3287	11.1494	11.9324	40
41	15.3982	16.9104	13.6375	14.8629	12.2028	13.2007	11.0126	11.8340	41
42	15.1368	16.6772	13.4398	14.6878	12.0449	13.0672	10.8846	11.7310	42
43	14.8783	16.4374	13.2350	14.5064	11.8803	12.9281	10.7504	11.6391	43
44	14.6311	16.1761	13.0397	14.3054	11.7237	12.7714	10.6233	11.4990	44
45	14.3812	15.9246	12.8413	14.1128	11.5641	12.6219	10.4933	11.3815	45
46	14.1250	15.6693	12.6366	13.9162	11.3984	12.4687	10.3574	11.2608	46
47	13.8659	15.4064	12.4285	13.7123	11.2292	12.3088	10.2182	11.1339	47
48	13.6002	15.1356	12.2137	13.5007	11.0534	12.1416	10.0726	11.0005	48
49	13.3503	14.8746	12.0125	13.2973	10.8711	11.9651	9.9200	10.8611	49

TABLE III.—continued.

Age. <i>m</i>	3 per cent. $a_m, r = \frac{1}{1.03}$		4 per cent. $a_m, r = \frac{1}{1.04}$		5 per cent. $a_m, r = \frac{1}{1.05}$		6 per cent. $a_m, r = \frac{1}{1.06}$		Age. <i>m</i>
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
50	13·0950	14·5914	11·8057	13·0735	10·7202	11·8030	9·7978	10·7297	50
51	12·8342	14·3031	11·5932	12·8442	10·5453	11·6190	9·6523	10·5807	51
52	12·5715	13·9876	11·3782	12·5895	10·3676	11·4115	9·5041	10·4100	52
53	12·3070	13·6650	11·1609	12·3274	10·1873	11·1964	9·3531	10·2320	53
54	12·0371	13·3314	10·9378	12·0541	10·0012	10·9704	9·1966	10·0435	54
55	11·7417	12·9861	10·6904	11·7688	9·7921	10·7327	9·0184	9·8437	55
56	11·4186	12·6145	10·4166	11·4581	9·5577	10·4705	8·8161	9·6206	56
57	11·0856	12·2291	10·1320	11·1330	9·3125	10·1939	8·6029	9·3832	57
58	10·7460	11·8326	9·8399	10·7959	9·0589	9·9047	8·3809	9·1339	58
59	10·3956	11·4550	9·5360	10·4741	8·7930	9·6281	8·1464	8·8935	59
60	10·0814	11·0633	9·2637	10·1374	8·5551	9·3363	7·9368	8·6386	60
61	9·8241	10·7409	9·0428	9·8628	8·3637	9·1005	7·7697	8·4347	61
62	9·6420	10·4949	8·8907	9·6576	8·2359	8·9285	7·6616	8·2897	62
63	9·4726	10·2523	8·7504	9·4551	8·1191	8·7587	7·5641	8·1468	63
64	9·3194	10·0142	8·6251	9·2563	8·0166	8·5923	7·4802	8·0072	64
65	9·1389	9·7055	8·4747	8·9913	7·8910	8·3638	7·3751	7·8092	65
66	8·8720	9·3213	8·2434	8·6547	7·6895	8·0672	7·1987	7·5466	66
67	8·5236	8·8876	7·9347	8·2696	7·4145	7·7235	6·9525	7·2382	67
68	8·1127	8·4360	7·5655	7·8651	7·0809	7·3592	6·6495	6·9086	68
69	7·6859	7·9856	7·1787	7·4588	6·7284	6·9909	6·3266	6·5731	69
70	7·2987	7·5874	6·8263	7·0988	6·4059	6·6637	6·0300	6·2743	70
71	6·9858	7·2649	6·5414	6·8078	6·1450	6·3997	5·7898	6·0337	71
72	6·8521	7·0876	6·4240	6·6050	6·0412	6·2178	5·6974	5·8698	72
73	6·7665	6·8328	6·3520	6·4227	5·9803	6·0548	5·6458	5·7234	73
74	6·7163	6·6588	6·3139	6·2690	5·9521	5·9185	5·6257	5·6021	74
75	6·6368	6·4567	6·2489	6·0884	5·8994	5·7564	5·5831	5·4561	75
76	6·4940	6·1897	6·1245	5·8453	5·7907	5·5343	5·4878	5·2524	76
77	6·2670	5·9142	5·9201	5·5930	5·6058	5·3022	5·3200	5·0381	77
78	6·0248	5·6843	5·7004	5·3349	5·4056	5·0633	5·1369	4·8162	78
79	5·8063	5·3709	5·5024	5·0909	5·2254	4·8364	4·9723	4·6044	79
80	5·5660	5·1373	5·2827	4·8738	5·0239	4·6342	4·7867	4·4146	80
81	5·3651	4·9414	5·0997	4·6914	4·8568	4·4632	4·6333	4·2544	81
82	5·2108	4·8092	4·9609	4·5687	4·7313	4·3488	4·5198	4·1471	82
83	5·0538	4·7768	4·8195	4·5413	4·6035	4·3253	4·4040	4·1266	83
84	4·8894	4·9009	4·6709	4·6644	4·4689	4·4469	4·2817	4·2462	84
85	4·7246	5·1070	4·5218	4·8688	4·3338	4·6488	4·1591	4·4453	85
86	4·5236	5·1530	4·3379	4·9229	4·1651	4·7098	4·0040	4·5118	86
87	4·2988	5·0263	4·1306	4·8132	3·9736	4·6149	3·8268	4·4302	87
88	3·9996	4·7960	3·8506	4·6041	3·7111	4·4249	3·5803	4·2573	88
89	3·7507	4·4133	3·6181	4·2471	3·4936	4·0914	3·3765	3·9453	89
90	3·4285	4·0275	3·3185	3·8853	3·2051	3·7514	3·1029	3·6253	90
91	3·1133	3·6587	3·0188	3·5378	2·9199	3·4235	2·8310	3·3156	91
92	2·8656	3·2971	2·7785	3·1954	2·6959	3·0989	2·6175	3·0075	92
93	2·7149	2·9561	2·6369	2·8654	2·5627	2·7848	2·2921	2·7080	93
94	2·5258	2·6539	2·4578	2·5835	2·3928	2·5162	2·3307	2·4519	94
95	2·5198	2·4278	2·4582	2·3692	2·3992	2·3130	2·3425	2·2591	95
96	2·4605	2·1508	2·4088	2·1047	2·3589	2·0601	2·3107	2·0172	96
97	1·9375	1·9937	1·9037	1·9579	1·8708	1·9232	1·8390	1·8896	97
98	1·3731	1·5327	1·3544	1·5118	1·3360	1·4905	1·3182	1·4703	98
99	·7443	·8215	·7272	·8136	·7392	·8059	·7233	·7983	99

TABLE IV.—SINGLE PREMIUM required to secure the payment of 1*l.* at the end of the year in which the life shall fail.

Age.	3 per cent.		4 per cent.		5 per cent.		Age.
<i>m</i>	Males.	Females.	Males.	Females.	Males.	Females.	<i>m</i>
0	•50361	•45482	•44821	•39860	•41097	•36179	0
1	•41464	•38543	•35070	•32310	•30858	•28302	1
2	•37050	•34636	•30198	•28027	•25725	•23815	2
3	•34252	•31612	•27069	•24673	•22396	•20270	3
4	•32568	•29840	•25142	•22661	•20311	•18108	4
5	•32046	•28730	•24482	•21355	•19553	•16668	5
6	•31631	•28387	•23930	•20877	•18898	•16089	6
7	•31436	•28481	•23612	•20874	•18482	•16004	7
8	•31475	•28845	•23548	•21166	•18329	•16227	8
9	•31822	•29293	•23823	•21549	•18531	•16545	9
10	•32320	•29838	•24265	•22041	•18911	•16978	10
11	•32910	•30442	•24810	•22599	•19400	•17482	11
12	•33573	•31056	•25438	•23169	•19980	•18000	12
13	•34258	•31648	•26093	•23717	•20590	•18495	13
14	•34911	•32259	•26716	•24288	•21166	•19016	14
15	•35597	•32850	•27377	•24836	•21785	•19514	15
16	•36241	•33418	•27993	•25362	•22359	•19988	16
17	•36822	•33963	•28540	•25863	•22858	•20436	17
18	•37367	•34485	•29047	•26338	•23315	•20857	18
19	•37885	•34971	•29526	•26775	•23741	•21236	19
20	•38419	•35513	•30022	•27273	•24186	•21682	20
21	•38957	•36112	•30523	•27838	•24638	•22198	21
22	•39501	•36730	•31032	•28425	•25095	•22740	22
23	•40017	•37368	•31509	•29036	•25519	•23308	23
24	•40546	•37975	•32002	•29615	•25960	•23844	24
25	•41091	•38562	•32512	•30172	•26418	•24355	25
26	•41585	•38994	•32965	•30553	•26814	•24678	26
27	•42092	•39435	•33432	•30945	•27223	•25010	27
28	•42610	•39876	•33912	•31335	•27646	•25339	28
29	•43196	•40327	•34470	•31735	•28153	•25677	29
30	•43832	•40787	•35085	•32145	•28722	•26024	30
31	•44541	•41383	•35788	•32710	•29387	•26539	31
32	•45327	•41996	•36581	•33297	•30154	•27076	32
33	•46075	•42618	•37333	•33893	•30877	•27625	33
34	•46846	•43258	•38115	•34512	•31636	•28198	34
35	•47643	•43917	•38931	•35155	•32432	•28798	35
36	•48413	•44545	•39717	•35762	•33200	•29360	36
37	•49208	•45191	•40535	•36392	•34005	•29945	37
38	•49964	•45856	•41312	•37044	•34767	•30557	38
39	•50744	•46531	•42120	•37709	•35564	•31182	39
40	•51494	•47174	•42896	•38338	•36330	•31768	40
41	•52267	•47834	•43702	•38989	•37130	•32378	41
42	•53000	•48513	•44462	•39662	•37881	•33013	42
43	•53753	•49211	•45250	•40360	•38665	•33676	43
44	•54473	•49973	•46001	•41133	•39411	•34422	44
45	•55200	•50705	•46764	•41874	•40171	•35134	45
46	•55947	•51449	•47552	•42630	•40960	•35863	46
47	•56701	•52214	•48352	•43414	•41766	•36625	47
48	•57475	•53003	•49178	•44228	•42603	•37421	48
49	•58203	•53763	•49952	•45010	•43383	•38182	49

TABLE IV.—continued.

Age. <i>m</i>	3 per cent.		4 per cent.		5 per cent.		Age. <i>m</i>
	Males.	Females.	Males.	Females.	Males.	Females.	
50	·58947	·54588	·50747	·45871	·44190	·39033	50
51	·59706	·55428	·51565	·46753	·45022	·39910	51
52	·60471	·56347	·52392	·47733	·45869	·40898	52
53	·61242	·57286	·53227	·48741	·46727	·41922	53
54	·62028	·58258	·54085	·49792	·47613	·42998	54
55	·62888	·59264	·55037	·50889	·48610	·44130	55
56	·63829	·60346	·56090	·52084	·49725	·45379	56
57	·64799	·61469	·57185	·53335	·50893	·46696	57
58	·65788	·62623	·58308	·54631	·52100	·48073	58
59	·66809	·63723	·59477	·55869	·53367	·49390	59
60	·67724	·64864	·60524	·57164	·54500	·50780	60
61	·68473	·65803	·61374	·58220	·55411	·51902	61
62	·69004	·66520	·61959	·59009	·56020	·52721	62
63	·69497	·67226	·62498	·59788	·56576	·53530	63
64	·69943	·67920	·62980	·60553	·57064	·54322	64
65	·70469	·68819	·63559	·61572	·57662	·55410	65
66	·71247	·69938	·64448	·62867	·58621	·56823	66
67	·72261	·71201	·65636	·64348	·59931	·58460	67
68	·73458	·72517	·67056	·65903	·61520	·60194	68
69	·74701	·73828	·68543	·67466	·63198	·61948	69
70	·75829	·74988	·69899	·68851	·64734	·63506	70
71	·76740	·75927	·70995	·69970	·65976	·64763	71
72	·77130	·76590	·71446	·70750	·66470	·65630	72
73	·77379	·77186	·71723	·71451	·66760	·66406	73
74	·77525	·77693	·71870	·72042	·66895	·67055	74
75	·77757	·78281	·72120	·72737	·67146	·67827	75
76	·78173	·79059	·72598	·73672	·67663	·68884	76
77	·78834	·79862	·73384	·74642	·68544	·69990	77
78	·79539	·80677	·74229	·75635	·69497	·71127	78
79	·80176	·81444	·74991	·76573	·70355	·72208	79
80	·80876	·82124	·75836	·77408	·71315	·73170	80
81	·81461	·82695	·76540	·78110	·72110	·73985	81
82	·81910	·83080	·77073	·78582	·72708	·74530	82
83	·82368	·83174	·77617	·78687	·73317	·74641	83
84	·82846	·82813	·78189	·78214	·73958	·74062	84
85	·83326	·82213	·78762	·77428	·74601	·73101	85
86	·83912	·82079	·79470	·77220	·75404	·72810	86
87	·84567	·82448	·80267	·77642	·76316	·73262	87
88	·85438	·83118	·81344	·78446	·77566	·74167	88
89	·86163	·84233	·82238	·79819	·78602	·75755	89
90	·87101	·85357	·83409	·81210	·79976	·77374	90
91	·88020	·86431	·84562	·82547	·81333	·78936	91
92	·88741	·87484	·85467	·83864	·82400	·80481	92
93	·89180	·88477	·86012	·85133	·83035	·81978	93
94	·89731	·89358	·86701	·86217	·83844	·83256	94
95	·89748	·90016	·86699	·87042	·83813	·84224	95
96	·89921	·90823	·86889	·88059	·84005	·85428	96
97	·91444	·91280	·88832	·88623	·86330	·86080	97
98	·93088	·92623	·90945	·90341	·88876	·88140	98
99	·94920	·94695	·93318	·93025	·91761	·91400	99

TABLE V.—ANNUAL PREMIUM required to secure **1l.** at the end of the year in which the life shall fail.

Age.	3 per cent.		4 per cent.		5 per cent.		Age.
<i>m</i>	Males.	Females.	Males.	Females.	Males.	Females.	<i>m</i>
0	·02955	·02429	·03124	·02549	·03322	·02699	0
1	·02063	·01826	·02078	·01836	·02125	·01880	1
2	·01714	·01543	·01664	·01498	·01649	·01489	2
3	·01517	·01346	·01428	·01260	·01374	·01211	3
4	·01406	·01238	·01292	·01127	·01214	·01053	4
5	·01373	·01174	·01247	·01045	·01157	·00952	5
6	·01347	·01154	·01210	·01015	·01109	·00913	6
7	·01335	·01160	·01189	·01015	·01080	·00907	7
8	·01337	·01180	·01185	·01033	·01069	·00922	8
9	·01359	·01206	·01203	·01057	·01083	·00944	9
10	·01390	·01238	·01232	·01088	·01110	·00974	10
11	·01428	·01274	·01269	·01123	·01146	·01009	11
12	·01472	·01312	·01312	·01160	·01189	·01045	12
13	·01517	·01348	·01358	·01196	·01235	·01080	13
14	·01562	·01387	·01402	·01234	·01278	·01118	14
15	·01609	·01424	·01450	·01271	·01326	·01154	15
16	·01655	·01461	·01495	·01307	·01371	·01189	16
17	·01697	·01498	·01536	·01342	·01411	·01223	17
18	·01737	·01533	·01575	·01375	·01448	·01255	18
19	·01776	·01566	·01612	·01406	·01482	·01284	19
20	·01817	·01604	·01650	·01443	·01519	·01318	20
21	·01858	·01646	·01690	·01484	·01557	·01359	21
22	·01901	·01690	·01731	·01528	·01595	·01401	22
23	·01943	·01737	·01770	·01574	·01631	·01447	23
24	·01986	·01783	·01810	·01618	·01670	·01491	24
25	·02031	·01828	·01853	·01662	·01710	·01533	25
26	·02073	·01861	·01892	·01692	·01745	·01560	26
27	·02117	·01896	·01932	·01723	·01781	·01588	27
28	·02162	·01931	·01974	·01755	·01819	·01616	28
29	·02215	·01968	·02023	·01788	·01866	·01645	29
30	·02273	·02006	·02079	·01822	·01919	·01675	30
31	·02339	·02056	·02144	·01870	·01982	·01720	31
32	·02414	·02108	·02219	·01920	·02056	·01768	32
33	·02488	·02163	·02292	·01972	·02127	·01817	33
34	·02567	·02220	·02369	·02027	·02204	·01870	34
35	·02650	·02280	·02452	·02085	·02286	·01926	35
36	·02733	·02339	·02534	·02141	·02367	·01979	36
37	·02821	·02401	·02622	·02202	·02454	·02036	37
38	·02908	·02466	·02708	·02263	·02538	·02095	38
39	·03000	·02534	·02799	·02329	·02628	·02158	39
40	·03092	·02601	·02889	·02392	·02717	·02217	40
41	·03189	·02670	·02986	·02458	·02812	·02280	41
42	·03284	·02744	·03079	·02528	·02904	·02347	42
43	·03385	·02822	·03179	·02603	·03002	·02418	43
44	·03484	·02909	·03277	·02688	·03097	·02499	44
45	·03588	·02996	·03379	·02771	·03197	·02579	45
46	·03699	·03086	·03487	·02858	·03304	·02663	46
47	·03814	·03182	·03601	·02951	·03415	·02752	47
48	·03936	·03284	·03722	·03050	·03534	·02847	48
49	·04056	·03386	·03839	·03148	·03649	·02941	49

TABLE V.—continued.

Age.	3 per cent.		4 per cent.		5 per cent.		Age.
<i>m</i>	Males.	Females.	Males.	Females.	Males.	Females.	<i>m</i>
50	·04182	·03501	·03963	·03260	·03770	·03049	50
51	·04316	·03622	·04095	·03377	·03900	·03463	51
52	·04455	·03759	·04233	·03513	·04035	·03295	52
53	·04602	·03906	·04377	·03657	·04177	·03437	53
54	·04757	·04065	·04531	·03814	·04328	·03592	54
55	·04935	·04237	·04708	·03986	·04504	·03761	55
56	·05139	·04432	·04913	·04181	·04710	·03956	56
57	·05361	·04646	·05137	·04396	·04935	·04171	57
58	·05600	·04880	·05379	·04632	·05180	·04408	58
59	·05862	·05116	·05645	·04869	·05449	·04647	59
60	·06111	·05377	·05897	·05133	·05704	·04913	60
61	·06326	·05604	·06111	·05360	·05917	·05139	61
62	·06484	·05786	·06265	·05537	·06066	·05310	62
63	·06636	·05974	·06410	·05719	·06204	·05485	63
64	·06778	·06166	·06543	·05904	·06329	·05663	64
65	·06950	·06428	·06708	·06163	·06485	·05918	65
66	·07217	·06776	·06973	·06512	·06746	·06267	66
67	·07587	·07201	·07346	·06942	·07122	·06701	67
68	·08060	·07685	·07829	·07434	·07613	·07201	68
69	·08600	·08216	·08381	·07976	·08177	·07752	69
70	·09137	·08732	·08931	·08502	·08741	·08287	70
71	·09609	·09187	·09414	·08962	·09234	·09752	71
72	·09822	·09529	·09624	·09303	·09440	·09093	72
73	·09963	·09854	·09756	·09626	·09564	·09413	73
74	·10047	·10144	·09827	·09911	·09622	·09692	74
75	·10182	·10498	·09949	·10262	·09732	·10039	75
76	·10431	·10996	·10190	·10763	·09964	·10542	76
77	·10848	·11550	·10605	·11322	·10376	·11105	77
78	·11322	·12160	·11078	·11940	·10849	·11731	78
79	·11779	·12783	·11533	·12572	·11301	·12372	79
80	·12317	·13381	·12071	·13179	·11839	·12988	80
81	·12798	·13918	·12548	·13724	·12313	·13542	81
82	·13188	·14301	·12930	·14111	·12686	·13934	82
83	·13606	·14398	·13338	·14200	·13084	·14016	83
84	·14067	·14034	·13788	·13808	·13523	·13597	84
85	·14555	·13462	·14264	·13193	·13986	·12941	85
86	·15191	·13339	·14888	·13037	·14599	·12752	86
87	·15960	·13681	·15645	·13356	·15344	·13048	87
88	·17089	·14340	·16770	·13998	·16464	·13672	88
89	·18137	·15560	·17808	·15212	·17492	·14879	89
90	·19668	·16977	·19337	·16624	·19019	·16284	90
91	·21399	·18552	·21068	·18191	·20749	·17845	91
92	·22957	·20359	·22620	·19990	·22295	·19635	92
93	·24006	·22403	·23650	·22025	·23306	·21660	93
94	·25450	·24455	·25074	·24059	·24712	·23678	94
95	·25498	·26260	·25071	·25834	·24657	·25422	95
96	·25985	·28825	·25490	·28363	·25010	·27916	96
97	·31130	·30490	·30593	·29962	·30071	·29447	97
98	·39227	·36571	·38628	·35973	·38046	·35390	98
99	·54417	·51987	·53719	·77515	·53036	·50613	99

ON PROBABILITY.

The following tables will serve to show how nearly different tables of mortality and different tables of annuities agree.

Tables of Mortality.

Age.	(1.)	(2.)	(3.)	(4.)	(5.)		(6.)		Age.
	Despar- cieux.	North- ampton, Dr. Price.	Carlisle, Mr. Milne.	Equita- ble Ex- peri- ence, Mr. Davies.	Mr. Finlaison's Tables.		Chester Table.		
					Male.	Female.	Male.	Female.	
	Living.	Living.	Living.	Living.	Living.	Living.	Living.		
0		1000	1000		1000	1000	10000	10000	0
10	830	487	646	2844	896	903	6184	6701	10
20	814	440	609	2705	837	848	5765	6302	20
30	734	415	564	2501	732	777	5127	5695	30
40	657	312	507	2236	644	700	4516	5045	40
50	581	245	439	1937	561	623	3675	4302	50
60	463	174	364	1524	440	539	2778	3566	60
70	310	105	240	1028	288	412	1740	2498	70
80	118	40	95	480	125	210	715	617	80
90	11	3	14	65	11	52	205	283	90

Annuities at 3 per cent.

Age.	(1.)	(2.)	(3.)	(4.)	(5.)		(6.)		Age.
	Despar- cieux.	North- amp- ton, Dr. Price.	Carlisle, Mr. Milne.	Equita- ble Ex- peri- ence, Mr. Davies.	Mr. Finlaison's Tables.		Chester Table.		
					Male.	Female.	Male.	Female.	
0			17·320				16·042	17·718	0
10	22·766	20·663	23·512	23·768	20·524	22·312	22·237	23·089	10
20	21·168	18·638	21·694	21·795	19·223	20·720	20·143	21·140	20
30	19·492	16·922	19·556	19·671	17·082	19·174	18·284	19·330	30
40	17·183	14·848	17·143	17·351	14·011	16·111	15·654	17·137	40
50	13·899	12·436	14·303	14·477	10·777	12·560	13·095	14·591	50
60	10·522	9·777	10·491	11·539	7·425	8·638	10·081	11·063	60
70		6·734	7·123	8·285			7·299	7·587	70

These numbers are extracted from the following works:—

- (1.) The Doctrine of Life Annuities, by Mr. Francis Bailey, vol. ii. p. 532.
- (2.) Observations on Reversionary Payments, by Dr. Price, vol. ii. p. 314.
- (3.) A Treatise on the Valuation of Annuities, by Mr. Milne, vol. ii. p. 594.
- (4.) Tables of Life Contingencies, by Mr. Griffith Davies.
- (5.) These tables are taken from the Report of the House of Commons on Friendly Societies, 1827.
- (6.) These values are extracted from Table III, p. 58.

The Table of Mr. Milne agrees very closely with the mean of the columns for males and females in Table (1), and, in fact, it would have been sufficient to have supposed the rate of increase 1·007 in the formation of Table (2) during the last century to render the difference almost insensible.

AN ACCOUNT
OF
LORD BACON'S
NOVUM ORGANON SCIENTIARUM;
OR,
NEW METHOD OF STUDYING
THE SCIENCES.

THE FIRST, OR INTRODUCTORY PART.

Sir Francis Bacon, Lord Verulam, is justly held the founder of *Experimental Philosophy*. He proposed his plan in his *Instauratio Magna*, with so much strength of argument, and so just a zeal, as renders that admirable work the delight of all who have a taste for solid learning.—MACLAURIN'S *Account of NEWTON'S Philosophical Discoveries*.

ACCOUNT

OF THE

NOVUM ORGANON.

HOMO, NATURÆ MINISTER ET INTERPRES, TANTUM FACIT ET INTELLIGIT
QUANTUM DE NATURÆ ORDINE RE VEL MENTE OBSERVAVERIT; NEG
AMPLIUS SCIT, AUT POTEST.—*Nov. Org.*

LORD BACON was the first who taught the proper method of studying the sciences: that is, he pointed out the way in which we should begin and carry on our pursuit of knowledge, in order to arrive at *truth*. He gave a set of rules by which mankind might deliver themselves from slavery to names, and from wandering among fanciful systems, and return once more, as little children, to the school of nature. The task he chose was far more useful to the world, and honourable to himself, than that of being, like Plato or Aristotle, the author of a new sect: he undertook to expose the errors of those who had gone before him, and to shew the best way of avoiding them for the future: he had the principal share in pulling down the old building of a false philosophy, and, with the skill of a superior architect, he laid the foundation, and sketched the plan of another fabric; and gave masterly directions to those who should come after him—how, upon the ruins of the first, the temple of science must be erected anew. As, in a great army, there are some whose office it is to construct bridges, to cut paths along mountains, and to remove various impediments, so Lord Bacon may be said to have cleared the way to knowledge; to have marked out the road to truth; and to have left future travellers little else to do than follow his instructions: he was the miner and sapper of philosophy, the pioneer of nature; and he eminently promoted the dominion of man over the material world. He was the priest of nature's mysteries; and he taught men in what manner they might discover her profoundest secrets, and interpret those laws which nature has received from the great Author of all.

It is the object of this Treatise to make our readers acquainted with Lord Bacon's Philosophy, as it is contained in his great work, the *Novum Organum*; in which we find the principles of that improved

method of conducting the inquiries of science, which has now so long and so happily prevailed. To accomplish this design with the more effect, it will be desirable, first, to draw their attention, in a few words, to the state in which Bacon found the world, as to knowledge and science, at the time when he flourished. For, as the returning light appears more glorious after the sun has been eclipsed—and the order and beauty of nature would look doubly striking to an eye that had seen that chaos from which she first arose, when all was without form and void,—so, if we glance, but for a moment, at that darkness which so long overshadowed the human mind, and gave birth to so many phantoms and prodigies, under the name of science, this retrospect will serve to show more clearly the merits of a philosopher, who may be regarded as the morning star of that illustrious day which has since broken out upon mankind; and in the spirit of whose method, even the immortal NEWTON himself explored the heavens—by the aid of a sublime geometry, as with the rod of an enchanter, dashed in pieces all the *cycles*, *epicycles*, and *crystal orbs* of a visionary antiquity; and established the true Copernican doctrine of astronomy on the solid basis of a most rigid and infallible demonstration.

In several of the fine arts, in which chiefly the taste and imagination are concerned, such as poetry, rhetoric, statuary, and architecture, the ancients, according to general opinion, have equalled, if not surpassed, any of the moderns. Homer and Demosthenes continue, notwithstanding the flux of time, to retain their station as the masters of eloquence and song; and those exquisite statues, the Venus and the Apollo, still command our admiration as perfect models of what is chaste, and severe, and beautiful in the art of sculpture. The ancients nobly distinguished themselves also in those more rigorous exercises of the understanding which are demanded by pure mathematics; in proof of which it is sufficient to quote the name of Euclid, and of Archimedes whose discoveries in geometry and mixed science entitle him to be regarded as the *Newton* of all antiquity; but it was reserved for the moderns to invent a *calculus*—a new and more profound arithmetic, which was called for by a more exact acquaintance with nature herself, and was to be applied to that more improved state of natural science which is peculiar to later times: we allude to the doctrine of *fluxions*, or the *differential* method of Newton and Leibnitz; since cultivated, and applied to physical astronomy with great success by the French, and especially by LA PLACE. In most of those branches of knowledge, however, which rest on the basis of *experiment* and *observation*, the ancients almost entirely failed. The case is, that to form *theories*, or systems of science and philosophy, from a hasty view of facts and appearances, is an easy task, since this can be done without the labour of close and patient thinking: and if antiquity be, in truth, as Bacon himself represents it, but the childhood and youth of the world, it is nothing more than we might expect that, at that period of its existence, imagination should prevail over reason; and that the calmer and more successful exercises of the latter should not unfold themselves till a maturer age.

One instance, out of many, in natural science, may suffice to convince the reader to what absurd and extravagant notions the

mind can reconcile itself, when once permitted to rove into the regions of imagination, unrestrained by that strict and scientific method, so successfully pointed out by Lord Bacon, and which it is our present object to explain. *Cosmas Indopleustes*, who lived so late as the *sixth century*, affirmed that the earth was an oblong plane, surrounded by an impassable ocean; an immense mountain in the form of a cone, or sugar-loaf, placed in the north, was the centre around which the sun, moon, and stars daily revolved: the shape of this mountain, and the slanting motion of the sun, accounted for the variable length of the days, and the changes of the seasons. The heavens were supposed to be an immense arch, one side of which rested on the earth, and the other on two mighty pillars beyond the sea; under this vault a multitude of angelic beings were employed in guiding the motions of the stars. Such was the theory which gravely presented itself for adoption, seven or eight centuries later in the world than Euclid, Archimedes, and Apollonius!

Abundant instances of almost equal absurdity might be collected from the opinions of the ancients, on various other branches of science. Take, for example, the doctrine of *sensation*, or feeling, in what was called the *Peripatetic* school, so called from a word signifying to *walk about*, because it was customary for the disciples to study and dispute as they walked in the *Lyceum*, a place at Athens which was appropriated to their use. Of this school, the founder was ARISTOTLE, a man of immense genius, who obtained the greatest popularity, and the most extensive influence over the opinions of mankind, of all the philosophers of antiquity, and who held the minds of men in a kind of intellectual bondage for about two thousand years. In the *Peripatetic* philosophy, what takes place in *sensation* was thus described: a sort of images, or, as they were termed, *sensible species*, that is, certain films of the shape of bodies, came off, it was said, from the objects of sense, and arriving at the organs which were proper to them, were admitted to the nerves, and by them conveyed to the brain: here these images were impressed, as the engraving of a seal on wax, and being now refined into what were called *intellectual species*, the whole business of sensation and perception was supposed to be accounted for. Thus by a jargon of words were men taught to believe they understood the manner in which *matter* communicates with *mind* or *spirit*, and their operation upon each other, which, all that has ever been said or written on the subject, shows to be inexplicable, and to be received simply as a *fact* in the constitution of sentient being.

Up to the time of Lord Bacon, Aristotle still maintained, in a very great degree, his dominion in the realms of philosophy—a dominion which, at some periods, had been scarcely less absolute over the minds of men, and far wider and more lasting than ever his renowned pupil Alexander was able to secure over their bodies. Possessed of a most acute and penetrating mind, and a singular talent for minute investigations, he was qualified, in this respect, for philosophical inquiries far more than ordinary men. His writings in natural history in particular, constitute a mass of physical and anatomical facts, which must have resulted from a course of very diligent observations. Neglecting, however, that rigid and exact practical method which is essential

to all natural science, too much devoted to subtil distinctions of words; and too ambitious of gaining an ascendancy over the opinions of mankind, he pronounced too boldly on nature's operations, and spent his energies too often in useless or obscure questions. In his desire to set up his own dogmas, in opposition to ancient opinions, he is sometimes guilty of misrepresenting the philosophers of a remoter antiquity; and he frequently veils himself in an obscure and unintelligible jargon. Lord Bacon describes his propensity to tyrannize over men's minds, by saying that, "as though he had been of the race of the Ottomans, he thought he could not reign securely unless all his brethren were slain." Cicero, who seems to have had some respect for Aristotle's philosophy, acknowledges that, in his time, it was understood by very few even of the philosophers themselves. His *Logic*, which is peculiarly his own, is undoubtedly a great effort of human ingenuity; it consists in an *analysis* of that process of the mind which, however rapid, and almost imperceptible, must take place in all sound and correct reasoning. It furnishes the model to which all such reasoning may be reduced, and serves as a test by which the justice of an argument may be tried, if it be ever necessary thus minutely to put down all the steps by which the conclusion is arrived at. In the discoveries of science it can of course afford little or no assistance, and it was the mistaken attempt to employ it for this purpose, that so long excluded the proper method of entering on philosophical researches, and filled the minds of men with mere words, and confused notions. Bacon's observations on this subject in his *Advancement of Learning*, show that his frequent condemnations of the logical philosophers were levelled against the extravagant perversions of Aristotle's *Dialectics*, with which these schoolmen were chargeable, and to which Aristotle himself had led the way. His logic was the engine by which, for ages, the minds of men were bewitched in a manner that was altogether extraordinary, and diverted from things themselves to mere words.

The philosophy of Aristotle, which it would be foreign to the purpose of this treatise more than to characterize generally, without entering into its details, obtained the same credit at Rome, under the Cæsars, which it had already acquired in Greece; being patronized by both Julius and Augustus. Towards the close of the fifth century, the influence of Aristotle began to prevail over that of Plato in the Christian world. After considerably declining during the sixth century, it again revived; and in another century it had gained such an ascendancy that Aristotle seems to have been every where triumphant. Glosses, paraphrases, summaries, arguments, and dissertations on his works were composed without end; as if to make "darkness visible." Many of the inhabitants of the west learned Arabic in order to read a translation of them in that language. The Latin tongue was made another medium of their circulation, and they were read in most parts of the known world. Men were every where taught to believe in *matter*, *form*, and *privation*, as the origin of all things; that the heavens were self-existent, incorruptible, and unchangeable; and that all the stars were whirled round the earth in solid orbs! Aristotle's works were the great text-book of knowledge, and his logic was the only weapon of

truth. Men's minds, instead of simply studying nature, were in an endless ferment about occult qualities and imaginary essences; little was talked of but *intention* and *remission*, *proportion* and *degree*, *infinity*, *formality*, *quiddity*, *individuality*, and innumerable other abstract notions. The Latin tongue, which was employed by these scholastics, was converted into a barbarous jargon, which a Roman would not have understood; and, in the end, the most sectarian bitterness was produced, sometimes ending in bloody contests. In the midst of these disputes, Aristotle was still the grand authority. Christians, Jews, and Mahometans, united in professing assent to the great lawgiver of human opinions: not Europe alone, but also Africa and Asia acknowledged his dominion; and while his Greek originals were studied at Paris, translations were read in Persia and at Samarcand.

The rage for disputation which now began to prevail in consequence of the spread of this philosophy, induced the council of Lateran, under Pope Innocent III., to proclaim a prohibition of the use of the physics and metaphysics of Aristotle; but awful as were then the thunders of the Vatican, they were not mighty enough to dethrone him from that despotism over men's minds, which, by long custom, had now rendered itself almost omnipotent. The passion for the Aristotelian subtleties had become so general, that, notwithstanding Pope Innocent's decree, it was soon found necessary to favour publicly, in some degree, at least, the study of their author; and accordingly, his *Dialectics*, *Physics*, and *Metaphysics* were received into the University of Paris by an express statute to that effect. In England his doctrines were cherished with as great an eagerness as elsewhere. From about the end of the twelfth century the very name of Aristotle operated like a charm; his writings had obtained universal circulation, and in some of the universities of Europe statutes were framed which required the professors to promise, on oath, that in their public lectures on philosophy they would follow no other guide!

From this period till the close of the sixteenth century, though the authority of Aristotle still continued in the schools, the minds of men were gradually preparing to shake off his yoke, and a more propitious era was fast approaching. The revival of learning in the fifteenth century, the invention of the art of printing, and the Reformation, had done much to prepare the world for that new light which was afterwards to be cast over the fields of science, hitherto covered with darkness, and peopled only with airy and delusive phantoms. A few distinguished men—as *John of Salisbury*, *Gros-lête*, Bishop of Lincoln, *Roger Bacon*, *Ludovicus Vives*, and others, had taught mankind that neither the decrees of the Vatican, nor those of the Grecian schools, were incapable of being resisted. *Gilbert* had successfully investigated the laws of magnetic attraction, and furnished an excellent specimen of reasoning from experiment. In opposition to the system that was held by Aristotle and his followers, which made the earth the centre of the universe, *Copernicus* had revived the ancient Pythagorean doctrine of the earth's motion round the sun, and had discovered the true theory of the planets. *Galileo*, *Kepler*, *Gassendi*, and others who lived at the same time with Bacon, were acquiring a well-earned fame by their improvements in geometry and physics; and the whole world of science

already sighed to be redeemed from the darkness of the middle ages, and the bondage of the schools. *Martin Luther*, who had been taught the philosophy of Aristotle in his youth, had expressed his contempt for its vanities, and rejected it with indignation. *Ramus*, also, had attacked the existing opinions at Paris, and disputed publicly against Aristotle's doctrines in the university of that city. Like many other honest followers of truth, however, in this wretched world, which has always loved darkness rather than light, he suffered severely for his boldness. As a punishment for his presuming to question the infallibility of the great despot of all knowledge, in an edict of the French parliament, under Francis I., the said Peter Ramus is gravely pronounced to be "insolent, impudent, and a liar;" his books are, now, and for all time coming, condemned, suppressed, and abolished, and the author is solemnly prohibited from copying, or even reading, his own works. *Bruno*, *Campanella*, *Patricius*, *Nizolius*, and some others, also contributed their part to undermine the influence of Aristotle.

It was reserved, however, for Francis Bacon, Lord Verulam, to break the spell of the mighty enchanter of Stagira, and to give a final blow to the scholastic philosophy;—to make one grand and general attempt to deliver men's minds from the bondage of two thousand years;—to assert the right of that reason with which the beneficent Creator has endowed man, as above all authority merely human;—and to sketch the outline of one grand and comprehensive plan, that should include in it the endless varieties of our knowledge, and guide our inquiries in every branch. Born in the year 1561, and early entered as a student at Trinity College, Cambridge, this great genius soon began to feel dissatisfied with the vagueness and uncertainty of the existing state of knowledge, the want of connexion between the sciences and the arts, and the consequent uselessness of the reigning speculations as regarded the purposes of life. The more he thought on the subject, the more he was convinced of the vanity of the scholastic learning of the times, and of the necessity of a thorough reformation in the method of treating the knowledge of nature, by laying aside all conclusions not founded on observation and experiment. He saw plainly that a great part of the evil lay in the extensive influence which Aristotle still possessed in the schools; that *nature* and *fact* were neglected for the study of his doctrines, which were the arbiters in all disputes; the properties of matter, and the laws of motion, by which all effects are produced, were lost in useless distinctions and dry definitions; the powers of the mind were exhausted in grave trifling and solemn folly; and the real advancement of human knowledge was altogether hopeless, so long as such a state of things prevailed. A century or two earlier, the contests about *names*, and *forms*, and *essences*, were sometimes more serious than a mere strife of tongues: they ended in actual bloodshed; while the disputants took the side either of *Occam*, "*the most subtil*," or *Duns Scotus*, "*the invincible*," the famous champions of the day; and if the din of this philosophical, or rather unphilosophical war now raged no longer,—if those imposing titles were not now heard which had formerly been bestowed on the leaders of rival parties, such as the *most profound*, the *marvellous*, the *perspicuous*, the *irrefragable*, the *most resolute*, the *angelical*, the *seraphic doctor*,—it was that all inquiry had well nigh

ceased, and the minds of men were cast, with a very few exceptions, into a profound slumber, and filled only with the romantic visions of an imaginary philosophy.—Such had been the state of things at the time of Lord Bacon, and the brief notice we have taken of it may serve to throw light on the real value of his labours, which had for their object the establishment of a philosophy that is in fact no other than the philosophy of reason and common sense, in opposition to all mere theory and fancy, and to all imposition.

Under these circumstances Bacon wrote his *Organon*. His qualifications for this bold attempt to clear the barren wastes of science, and to sow the seeds of a new creation of useful knowledge, will be best seen by studying his doctrines. We shall, therefore, now proceed to give an account of this most important and considerable part of his general work, the *Instauratio Magna*, or *Instauration of the Sciences*. Its title was probably suggested by Aristotle's *Organon*, containing his *Logic*; it is called *Novum Organon Scientiarum*, or a *new Method of Studying the Sciences*, from the Greek word *organon*, which signifies an *instrument* or *machine*. The grand principle which characterizes this great work, and by the proper use of which its author proposes the advancement of all kinds of knowledge, is the principle of *Induction*, which means, literally, *a bringing in*; for the plan it unfolds is that of investigating nature, and inquiring after truth, not by reasoning upon mere conjectures about nature's laws and properties, as philosophers had been too much accustomed to do before, but by *bringing together*, carefully, and patiently, a variety of particular facts and instances; viewing these in all possible lights; and drawing, from a comparison of the whole, some general principle or truth that applies to all. The foundation of this philosophy lies, in short, in the *history of nature itself*—in making a laborious collection of the facts relating to any one subject of inquiry, previously to any attempt at forming a system or theory. Actual experiment, which Bacon significantly terms “asking questions of nature,” must be resorted to, where experiments, as in chemistry, can be made: observations must be accurately collected, in the subjects proper to these, as astronomy; and conclusions are, in all cases, to be drawn only from what is actually witnessed, after the comparison of a sufficient number of facts, and a due regard to objections. In his treatment of this important subject of Induction, a new and more rational employment of the faculties is exhibited than the world had ever seen; and never before was there laid down to the minds of men the true theory of investigating all truth, whether natural or moral: indeed, Bacon has well merited the appellations he has received—the *Prophet of the Arts*, and the *Father of Experimental Philosophy*.

To point out the amazing success which has attended this system, which may be called the *Baconian* method, in the hands of the moderns, were an endless task—it would be to give nothing less than the history of science for the last two hundred years. The constellation of geniuses that rose in the next age mostly looked up to Bacon as their leading star. Newton himself was able to outshine them all, not merely by the energy of his own mind, but by his imbibing most deeply the spirit of this philosophy. No feature of Newton's intellect was more remarkable than the singular command he possessed over his

imagination, by which he was enabled to construct theories, more surprising than all the visions of fancy, yet on a foundation that must remain unshaken so long as the human mind and truth continue what they are. We may name his *Optics*, in passing, as a triumphant example of the *Inductive* method, in which, by experiment and observation as the basis of his calculations, he has treated of the nature and properties of *light*, one of the most subtil of all things, in a manner that cannot fail to surprise and delight the reader: with so much accuracy and precision is this wonderful element reduced to certain laws, as truly as the most gross and solid bodies. Having found, by very accurate experiments, that light always proceeds in straight lines, and that the rays of it are reflected and refracted according to certain fixed and unchanging laws,—on this experience he establishes the whole theory of *optics*, or the science of *vision*; and thus this science is founded on the *induction* we speak of.

Again—the mere falling of a heavy body to the earth was found by Newton to involve principles which apply to all we know in mechanical philosophy; in other words, the descent of a tile from a house, or an apple from a tree, arises from the same cause which keeps the moon from leaving her proper course round the earth; and which retains all the planets in their paths round the sun: this principle, or cause, is called by the name of *gravity*. It was known from observation that gravity, or a tendency to approach the earth, belongs generally, to all bodies near its surface; and it was ascertained that it is proportioned to the square of the distance; that is, if a body be attracted by the earth at a certain distance, with a certain force, and be afterwards removed to *twice* the distance, it will now be attracted *not half* as much, but only *one-fourth* as much as it was before; and if it be removed to *three* times the first distance, it will be attracted *not one-third* as much, but only *one-ninth* as much as before, 4 being the square of 2, and 9 the square of 3. From these facts this mighty genius suspected that the same principle might extend to all nature; and thus, by the assistance of a profound geometry, he explained the motions of the heavenly bodies, and demonstrated the system of the world.

That the rules laid down by Bacon had been carefully studied by Newton, is evident from the use he makes of Bacon's phraseology. In his *Principia*, for instance, he gives the same latitude of meaning to the word *axiom* that Bacon does in his *Organon*. Bacon, by this term, means a general principle, obtained by experiment and observation, from which we may safely proceed to reason in all other instances; and Newton gives the name of *axioms* to the *laws of motion*, which of course are ascertained by the scrutiny of nature; he also terms *axioms* those general experimental truths, or *facts*, which form the groundwork of the science of optics. *Axiom*, however, in the language of Euclid, and of mathematicians generally, means a self-evident proposition. Mr. Dugald Stewart thinks that, in this, and other instances, Newton followed Lord Bacon's phraseology "too implicitly." However this may be, it is certain Newton was familiar with Bacon's works.

In the *Chemistry* of modern times, also, we have the most astonishing examples of the success of the *inductive*, or experimental method. Until

this was employed, no part of science was more fanciful: so that it has justly been remarked, that chemistry, in the middle ages, might be said to have an *elective attraction* for all that was absurd and extravagant in other parts of knowledge. It is true that, before the darkness of these ages had passed away, *Paracelsus* conferred great benefits on the world by the application of chemistry to medicine; and *Van Helmont*, notwithstanding the extravagancies with which his imagination was filled, by the discovery of elastic fluids, did his part to form the new chemistry; but it was the work of those who have had the opportunity of thoroughly imbibing the spirit of the Baconian philosophy, as applied by Newton, effectually to deliver chemistry from quackery and romance; and to frame such a system as that which now exists.

Lord Bacon, in support of the importance of the *inductive* method, lays down the following fundamental principle, as his first and leading *aphorism* concerning the "Interpretation of nature, and man's dominion over it"—a principle which, obvious as it seems, had never been properly acted on by philosophers:—"Man, the servant and interpreter of nature, can only understand and act in proportion as he observes or contemplates the order of nature; more he can neither know nor do." This general principle of Bacon is undoubtedly the foundation of all our real knowledge. The science of the philosopher differs in degree only, *not* in kind, from that information which is the fruit of the commonest experience. Everybody knows that cold produces ice and snow; that the sun is higher in the sky in summer than in winter; that in pits and mines the air sometimes burns, and explodes like gunpowder. Now the moment we depart from these mere facts, and begin to consider their causes, and in what circumstances they are likely to happen again, we begin to apply *experience* to science—we reason by *induction*. It cannot be doubted that this inductive method is, to a certain extent, natural to the mind. The foundation of it lies in our expecting the *same effects from the same causes*; for this is the groundwork of reasoning from particular facts to general, or what is called "*generalisation*." This expectation seems to be an original principle implanted in the human mind by the beneficent Creator; and without which we could know nothing, and never be safe from danger. It goes before experience, and is the guide of it. A child who for the first time approaches too near the flame of any substance that is in a state of combustion, or burning, so as to hurt himself, afterwards proverbially dreads the fire; connecting in his mind the remembrance of the pain he has felt, with the touching of any part of his body with the flame. It is evident he expects the same effect to follow from the same or a similar cause; and the resemblance between the flame of a candle and that of the fire would, it is likely, put him on his guard against a similar disaster from that source also. Now, this is a species of *induction*, though not founded on an enlarged experience; and it is probable the child will now come to have the same fear of everything bearing the appearance of flame. He might expect that the same effect must arise from contact with the flame of *alcohol*, or spirit of wine, for instance, until informed that it was possible to touch this without being burnt. Hence the necessity of a sufficient experience, before we form any general principle.

A remarkable instance of this necessity, and one drawn from the more exact part of science, is mentioned by Euler, in his *Memoirs of Berlin*. It happens that in the formula $x^2 + x + 41$, if x be made successively equal to 0, 1, 2, 3, 4, 5, etc., the results will be a series of which the first forty terms are all *prime* numbers—that is, numbers which have no divisors, or which cannot be divided into any number of equal integral parts, less than the number of units of which they are composed: hence it might be supposed the law was general;—or, in other words, for the sake of any of our readers who have not made themselves acquainted with algebra, that any number whatever, multiplied by itself, and then added to itself, together with the number 41, would make a prime number. It happens, however, that in the very next, or forty-first term, the result is a *composite* number—that is, a number that can be divided by some smaller number, without a remainder; and thus the rule is false. Now, it is the great design of the *Novum Organum* to point out the method of a strict and enlarged experimental, or inductive reasoning, especially, though by no means exclusively, in reference to the study of *physics*, or natural philosophy. This work may be regarded as a more useful and more extensive system of reasoning than any that went before it; not consisting of *sylogisms* and the modes of argument that were then in use, which, however correct, provided the premises be true, could, after all, only serve for the arrangement of truths already known, or for detecting very obvious and gross fallacies in argument, and for classifying such truths and fallacies, but an art leading to invention, and productive of discoveries of the highest importance to the general uses of human life. These discoveries are proposed to be accomplished by turning our attention from mere words to things themselves; from all those frivolous and childish speculations which only dazzle without illuminating the understanding, to a sober and rational method of investigating the operations and laws of nature,—a method well calculated to recommend itself to those whose only object is *truth*.

Lord Bacon sets out by condemning the two opposite errors, which up to his time had proved equally injurious to a just acquaintance with nature; the one that of magisterially pronouncing on her operations, as if *all* were explored and known, and nothing further were to be discovered; by which supposition all inquiry would of course be prevented as useless; the other error that of the sceptic philosophers, who, proceeding to the opposite extreme, declared that *nothing* can be known, and endeavoured, by distrusting the clearest notices of sense and consciousness, to convince themselves of this absurd and inconsistent notion. Those of the ancient Greeks were more worthy of our imitation, whose writings are now lost, but who seem to have held a middle course; and though they complained of the mystery in which nature often wrapped herself, still kept on their pursuit, and did not allow themselves long to lose sight of their object. Even these philosophers, however, do not appear to have applied a sufficient *rule* and *method* in their inquiries, but placed too much reliance on subtlety of mind, and random conjecture. The art of logic, so much extolled by the ancients, certainly came too late, to minds already prepossessed by error: hence, by the perversion of this instrument, the aberrations

of the human understanding were only fixed and rendered permanent, instead of being corrected and removed; the chains of prejudice were rivetted, and loaded with gaudy ornaments. It is evident that the mind needs direction and regulation, by some right method of employing its faculties, as much as the body needs the assistance of the mechanical powers in raising large and heavy weights. In such a method the ancients were altogether deficient. Yet by way of conciliation, Bacon observes that he is still perfectly willing to leave the ancients in possession of all the honour that is due to them. The method of science, however, here proposed, being so little known to them, no room, he conceives, is left for rivalry and envy. He contends not for victory, but for utility and truth. If any persons, from want of time, or other causes, are unable to pursue this more laborious method, he says they may still attempt what they can, by framing systems and theories, which he terms the mode of *anticipation of the mind*; others, who are more worthy sons of science, must follow his plan of induction, or the *interpretation of nature*, as it is here laid down, a method on which it is the more necessary to insist, because many examples have occurred since Bacon's time, of the bad consequences of neglecting it. Of this, no less names than *Descartes* and *Leibnitz* were early examples; men endowed with every faculty of the mind that most fits for philosophical investigations—with the happiest genius for science.

The body of the *Novum Organum* is divided into two general parts. The former of these, which is intended to introduce the latter, is calculated to prepare the mind for receiving and employing the doctrine contained in the second part, which delivers the new method of proceeding in all kinds of inquiries, in order to the acquisition of a more accurate knowledge of the works of nature, and a more extensive dominion over it. As the whole book is quaintly divided into *aphorisms*, or short portions, founded on sententious remarks, and accompanied with illustrations, we shall not attempt to conduct our readers through each of these portions separately, which would be almost to present the whole; but hoping that those who have the opportunity of doing so, will feel induced to read the original work, or a translation of it, for themselves, we shall simply endeavour to condense its principles, and shall throw it into sections adapted to our present purpose.

I. General Prefatory Remarks.

The first thirty-seven aphorisms, which we may call our *first section* of the former part of the work, are chiefly occupied in attempting to remove ancient prejudices, and to procure a fair and candid attention to a book which, at the time of its publication, must have had so much to contend against. It is deplored by Bacon, that for want of a right method of study, little effects had resulted, up to the close of the sixteenth century, from the labours of men engaged in the pursuit of science; for knowledge is the same thing as power, and where there is little sound knowledge of nature, there will be little power gained over her. This must always have been the state of things, unless means before untried had been employed in the improvement of the

sciences. That improvement could not be left to mere accident as heretofore, when each following age only re-echoed the voice of the preceding, and contented itself with pompously extolling the existing delusive methods of philosophy, to the neglect of one more genuine and scientific. The philosophy of nature Bacon compares to "a vast pyramid, which ought to have the history of nature for its basis:" those who strive to erect it by the force of abstract speculation, he likens to the giants of old; who, according to the poets, endeavoured to throw mount Ossa upon Pelion, and Olympus upon Ossa. The only hope on which to found all real advancement in knowledge, must arise from a strict experimental method, that is, the examination of a sufficient number of particular instances on both sides the question at issue, so that when all the exceptions are properly made, some useful and important truth may remain as a principle to proceed on, in further inquiry. When examined on this inductive principle, most of the common notions existing when the *Novum Organum* was written, were quite unsatisfactory: those, for instance, relating to *gravity*, *attraction*, the *elements*, *matter*, *form*—all these, and many more, as taught in the sixteenth century, were but ill-defined and fantastical notions. Even many of our common-sense ideas, as those relating to our sensations and reasonings, though they can scarcely in themselves greatly deceive us, yet may these be much obscured and perplexed by a false mode of philosophizing. For instance, the supposed necessity of the objects of sense being actually present with the mind that perceives them, gave rise to the notion of *images*—an image of a horse must be in the mind, or the horse could not be seen; whereas, it is evident, that *seeing* is a fact in the nature of man: how the impression is conveyed from the nerves and brain to the mind, we know not.

The mode of searching after truth that had always been in vogue was, at the best, from observing, not very rigidly, a few particulars, to rise at once to some *general axiom* or conclusion; but the only genuine method, Bacon observes, is, to advance gradually from the notices the senses give us in particular instances, and those sufficiently numerous, to some *lesser axiom* or principle, and then gradually to proceed to some still more general principle, till at length you form some grand and final conclusion. The understanding seems but too naturally to adopt the former of these two methods, which is calculated most effectually to prevent all advances in knowledge and science. It is the object of science to see things as they are in nature, and not in appearance merely: but "there is a wide difference," says Lord Bacon, between the *idols* of the human mind, and the *ideas* of the divine mind: that is, between certain vain notions, and the real characters and impressions that are stamped upon the creatures, as they are actually found." We may illustrate this by a reference to the Ptolemaic System of Astronomy, which was founded on the false and hasty notion of the *apparent* motions of the heavenly bodies being the *real* ones. The sun, moon, and stars, seem to move round the earth once in twenty-four hours: hence the rude and gothic notion that the earth was the centre around which they are all actually whirled; whereas, by a successful cultivation of a proper method, the truth is now demonstrated to be that the sun, and not the earth, is the centre

of the mundane system ; and is, with respect to the earth at least, nearly at rest. "The method of *anticipating nature*," says Bacon, "rash, hasty, and unphilosophical as it is, has nevertheless a much greater power than the other, to entrap the assent of the mind ; which is too apt to be delighted with its own conjectures, and to allow the imagination to be struck and filled with its own plausible subtilities : whereas *interpretations of nature*, or real truths arrived at by induction, being separately and more slowly collected, cannot so suddenly arrest the mind ; and when the conclusion actually arrives, it may so oppose prejudice, and appear so paradoxical, as to be in danger of not being received, notwithstanding the evidence that supports it, "like mysteries of faith."

The method of *anticipation*, however, or of dictating to nature what she and her operations are to be, could never, of course, avail to promote real science, whatever talents might be engaged in it. Tycho Brahe thus *anticipated* nature, in taking it as a certain truth that the earth must be at rest. For though he was too well acquainted with the planetary motions to suppose their centre any other than the sun, yet in order to preserve his favourite notion that the earth did not move, he supposed the sun, with all the planets, to be carried annually round it ; while these latter revolved in their proper orbits round the sun ; and having rejected the Copernican doctrine of the daily motion of the earth round its own axis, he was obliged to retain the most violent part of the system of Ptolemy, and to suppose that the whole universe was carried round the earth every day. It was thus, also, that the great Kepler, the contemporary of Bacon, imagined that the planets *must* be six in number, and must have orbits of certain dimensions, because of certain properties of numbers, and of plane and solid figures, with which he fancied they corresponded. These speculations he published in 1596 in his "*Mystery of the World* ;" and on sending a copy of his book to Tycho Brahe, he received from him the advice, "first to lay a solid foundation in *observations*, and then, by ascending from them, to strive to come at the causes of things." To this excellent advice, as Maclaurin observes, we owe Kepler's more solid discoveries : for, availing himself of Tycho Brahe's astronomical observations, he, from them, discovered the laws of the planetary motions, known ever since by his own name. Huygens, a celebrated Dutch geometrician and astronomer, and who lived later, suffered himself to be imposed on in a similar way : for, having discovered one of Saturn's moons, this, added to the four moons of Jupiter, and the one belonging to our globe, made up the number six ; the number of the primary planets then known being also six ; and the number six being a *perfect* number—that is, a number that is equal to the sum of the equal parts into which it can be divided, Huygens affirmed that the number of the planets was complete, and that it was in vain to look for any more : we need not remark that this mystical speculation has since been disproved by fact. Now it was the praise of Lord Bacon to endeavour to remove from men's minds this superstitious tendency to rest in preconceived notions, which so much prevailed, and which was encouraged by some who were greatly his superiors in the abstract sciences. "Though the labours and

capacities of all men," says he, "in all ages, could be united and continued, they could effect no considerable progress in science by *anticipation* of nature; since radical errors in the mind's first digestion are not to be cured by the excellence of its functions, or by any succeeding remedies. Unless men choose to move always in a circle without advancing, we have but one simple method left; namely, that of leading them to particulars, to their order and connection. They must be contented, for a time at least, to forsake their own notions, and to become acquainted with things themselves. Our method has some resemblance to that of the Sceptics at the outset, but differs widely from it, and is directly opposed to it in the end. They foolishly assert that nothing can be known: we say that little is to be expected from the existing method; they contradict reason and common sense; we endeavour to assist both."

II. *The Idols of the Mind; or Grand Sources of Prejudice.*

Lord Bacon philosophically points out, with great exactness, various general sources of those errors which men are apt to commit in forming their notions of things; and he shows how very great an obstacle they form to the progress of our knowledge, and the acquisition of truth. "The *Idols*, or false notions of the mind," he says, "so deeply fix themselves in it, that they not only shut up the avenues through which truth might enter; but even when it has entered, they will again be presenting themselves, and will be troublesome in the advancement of the sciences, unless men, being aware of them before hand, guard against them with all possible diligence." As no part of Bacon's works is more valuable than this, or more important to all who are in pursuit of knowledge and truth, we shall give some detail of it to our readers. He strikingly, though in his usual quaint style, calls the prejudices that check the progress of truth, by the name of *Idols*, because mankind are apt to pay homage to these, instead of regarding truth; as they have offered to imaginary deities, the worship which is due only to the true God.

These prejudices and prepossessions are divided into four classes, which are called *Idols of the Tribe*; *Idols of the Den*; *Idols of the Market*; and *Idols of the Theatre*. These sources of error are peculiarly deserving of notice, because they will be found, if we mistake not, to include the principal causes, which in all cases have a tendency to obstruct the pursuit of truth, whether natural or moral. They constitute a sort of infection from which the mind must be purified, before it can enter with soundness and vigour, and with the best effect, into any sort of inquiry which has truth, and truth only, for its object. "While the rules Lord Bacon gives us," says the late Dr. Thomas Brown, "are rules of physical investigation, the temple which he purified was not that of nature itself, but the temple of the mind; in its inmost sanctuaries were all the idols which he overthrew; and it was not till these were removed that Truth would deign to unveil herself to adoration."

1. The *Idola Tribus*, or the *Idols of the Tribe*, the *first* class of prejudices, are so called because they are common to the whole *tribe*, or *race* of mankind; they are, in fact, *those general prejudices which arise*

from the infirmity of human nature itself. "The understanding of man," says our author, "is like a mirror whose surface is not true, and so, mixing its own imperfection with the nature of things, distorts and perverts them." For instance, there is a tendency in the mind to suppose a greater *uniformity* in Nature than she actually possesses. We are always disposed to imagine parallels, correspondences, and relations that may not actually exist. Hence the supposition that the heavenly bodies must all move in perfect circles, because the orbits of the planets were perceived to return into themselves: this was universally believed by the old astronomers, till Kepler disproved it a few years before Bacon wrote, by showing that the planets move in elliptical or oval orbits. Hence the ancient notion that the element of fire, with its *orb*, must be added to air, earth, and water, to make up the *even number* of what they called the *four elements*. Bacon's prediction that the sources of error would return and be likely to mingle with science even in its most flourishing condition, has been verified with respect to this particular illusion, in the case of sciences which in his time were scarcely in existence. When it was found that a considerable part of the earth's surface consisted of minerals, disposed in horizontal strata, or layers, it was immediately concluded that the whole exterior surface either is or has been composed of such layers; and on this assumed principle entire theories of the earth have been constructed.

Again, the mind has a wonderful facility also of being imposed on by *prepossessions*. If once pleased with any notion, it immediately endeavours to make every thing agree with this, even in the face of evidence to the contrary. It gets over opposing instances and examples, either by altogether neglecting them, or by inventing some subtil distinction which shall still maintain the favourite principle with which it first set out. Dreams, omens, and astrological predictions are cases of this kind, in which the instances of failure are passed over by the superstitious with little notice, while those instances in which the event corresponds to the supposed preternatural intimation of it are carefully remembered. This prepossession of the mind cannot endure exceptions to rules, and negative instances; though these are, in fact, of the greatest importance in establishing axioms or general principles.

The *imagination*, also, is apt to be overpowered with whatever at once strikes and seems to fill it; and the mind, imperceptibly yielding to this impression, readily comes to some conclusion, not waiting for the gradual processes of the understanding, to try general principles by the test of various, remote, and dissimilar instances; which can never be done without following rigid rules, and submitting the faculties to violent restraints.

The *restless activity* of the human powers, moreover, aids the force of general prejudices. The mind is ambitious of understanding what is incomprehensible. It attempts to grasp what is beyond its power, instead of being content with some proper resting-place for the natural weakness and limitation of its faculties. It wearies itself in its endeavour to comprehend such ideas as *space*, *time*, *eternity*, *infinity*; and it is still more apt to be misled, Bacon thinks, by its desire to discover the *final causes* of things, that is, the *uses*,

or ends, which the Creator had in view in forming them. The phrase *final cause* was first introduced by Aristotle, and the inclusion of this among *causes* in general as objects of inquiry, had the effect of diverting such minds as those of his followers from the study of nature to mere speculations. We must therefore remember that the hint which Bacon here throws out on this subject, and what he says more on it in his other works, always has a reference to *final causes* as treated by the Schoolmen. He objects to these being included, as a branch of *natural science*; but it cannot be supposed that his remarks on this subject arose from the same source which produced the prejudice against final causes that so generally prevailed in France in the eighteenth century. Bacon had no bias towards atheism: he censures Aristotle for "substituting Nature instead of God, as the fountain of *final causes*; and for treating them rather as subservient to logic than theology;" and in his *Essays* he finely remarks, "I had rather believe all the fables in the Legend, and the Talmud, and the Alcoran, than that this universal frame is without a mind. While the mind of man looketh at second causes scattered, it may sometimes rest in them, and go no farther; but when it beholdeth the chain of them confederate and linked together, it must needs fly to Providence and Deity."

Notwithstanding Lord Bacon's objection to final causes as a subject of philosophical inquiry, it must be allowed that, apart from the charm which the final causes, or ends of things, lend to Nature, when they are satisfactorily perceived, which is the moral use of them, there are some cases in which a consideration of them has conduced to actual discoveries in science. It was noticing the situation of the valves in the veins of the animal body, for instance, that led to the great discovery of the circulation of the blood. Harvey, who was its author, perceived that these valves, in some parts of the body, were so placed as to give a free passage to the blood towards the heart, and to exclude its return the same way. He thought there must be some particular *design* in this, and no design appeared more probable than that, since the blood could not well, because of the interposing valves, be sent by the veins to the limbs, it should be sent through the arteries, and return through the veins, whose valves did not oppose its course that way. This fact, however, and others which might be mentioned in illustration of this subject, were not known to Bacon; and the great abuse of the speculation on final causes by the Schoolmen not unnaturally led him to an unreasonable distrust of it.

The *influence of the will and affections on the understanding*, or what may be termed the *moral state* of the mind, may also greatly affect our opinions. "The light of the understanding," says our author, "is not a dry or pure light, but it receives a tincture from the will and the affections, and forms the sciences accordingly; for men are most willing to believe what they most desire." Hence, he observes, "difficulties are rejected through impatience; the deeper things of Nature are dreaded through a certain awe; experience is discarded through pride; truth when it limits our hopes; paradox is shunned through fear of vulgar opposition; and thus in innumerable ways, and often imperceptibly, do the affections and passions tinge the understanding with their own colouring."

The *fallacy and incompetency of the senses* are, an additional

source of mistake and error. Inquiry commonly ends in what is seen on the mere surface of things, while the organization, the texture, or the inward changes of bodies are unknown. On these, however, chemistry depends." Lord Bacon considers this incompetency and dulness, of the senses as one of the greatest impediments to an exact knowledge of nature. "Nor can instruments," he adds, "here be of any great service, since all true interpretations of nature must be made by suitable and proper trials, in which the senses judge of experiment only, and experiment is the judge of nature and fact." He complains, by way of example, that in his time even the properties of the common air of the atmosphere, and of all the agents, still more subtil than the air itself, of which he supposed there might be many, were almost entirely unknown. What would he have said, could he have witnessed the application of the inductive philosophy to the discovery of the properties of the various kinds of *gases*—the researches of Newton respecting *light*—the experiments of Franklin in *electricity*—the powerful agency of *galvanism*, which has produced new creations in chemistry, and changed the whole face of that interesting and useful science!

Lastly, there is a tendency in the mind to *abstraction or generalisation*, which should be carefully watched as a likely source of error. It is less troublesome to reason upon fancied general notions, than to make experiments. "But Nature," says our author, "must be anatomized rather than abstracted: matter should be considered in all its states and transformations; so ought motion and its laws; but for the Aristotelian abstract *forms*, they are *idols or figments* of the mind."—These seven particular causes, then, may be borne in mind as among the chief general prejudices, which are apt, often insensibly, to militate against the discovery of truth, and the advancement of science: too great a tendency to suppose a *perfect uniformity* in nature; *hasty prepossessions* in respect to some *favourite idea*; the influence of the *imagination*; the *restless activity* of the human mind; the bias the *will and affections* give to the judgment; the *imperfection* of the *organs of sense*; and the love of *abstractions and generalisations*.

2. The *second* class of prejudices introduced by this sagacious observer of human nature, as tending to obstruct the progress of truth and knowledge of all kinds, he terms *Idola Specus*—Idols of the *Cave or Den*: that is, *those prejudices which stamp upon each mind its own peculiar character, and are identified with every individual man*. "Idols of the den," says the *Novum Organum*, "are the idols of each particular person; for in addition to the general waywardness of human nature, every man has his own peculiar *den or cavern*, which breaks and corrupts the light of nature,—either on account of his constitution and disposition of mind—his education and the society he keeps—his course of reading and the authorities he most respects—his peculiar impressions as they may be made on a mind that is pre-occupied and prepossessed, or is in a calm and unbiassed frame: so that the human spirit, as it is differently disposed in different individuals, is a thing fluctuating, disorderly, and almost accidental. Hence Heraclitus well observes that men seek the sciences in their lesser worlds, and not in the great and common world of nature." In another place, these idols of the den are spoken of in the figurative language of Bacon, as "each man's

particular demon, or seducing familiar spirit;" and again, every mind is compared to "a glass, with its surface differently cut, so as differently to receive, reflect, and refract the rays of light that fall upon it."

Some of these private prejudices he justly regards as requiring peculiar caution, because they possess the greatest tendency to pervert the mind. The *particular studies*, for instance, to which a person has been addicted—more especially, if he has any claim to be an inventor, may warp his judgment in other pursuits, and tend to corrupt his notions. It was in this way that Aristotle, through his fondness for distinctions and quiddities, made his natural philosophy a mere slave to his logic, and so rendered it little else than a useless source of disputation. *Gilbert*, of Colchester, is another example. In his "*Treatise on the Magnet*," he gives a specimen of experimental inquiry carried on with considerable correctness and success; but he tried to make his magnetism a general principle, considering it to pervade all Nature. It is but fair to acknowledge his merit however, for "to him," as Dr. Priestley observes, "we owe a great augmentation of the list of electrical bodies, and of the bodies on which electrics can act: though his theory on this subject is imperfect, he may justly be called the father of modern electricity." Of late years, this species of fondness for theory has been discovered in attempts to account for the motion of the planets by electricity; and electricity and galvanism together have been employed to explain gravitation, the affinities of chemistry, and even the laws of vegetable and animal life. At an earlier period Des Cartes, after Bacon had so well written against theories, endeavoured, in medicine, to combine Van Helmont's doctrine of *fermentation* with his own beloved notions respecting *vortices*; which he thus brought down from heaven (where, as he supposed, they guided the planets in their orbits) to earth, in order to explain the chief functions of the animal body. Hence he formed a chemicomechanical system of medicine which was eagerly received by the Dutch physicians of his time. Thus may one favourite pursuit be suffered to give a tincture to every other branch of knowledge, and to corrupt it. "The tribe of chemists," says Bacon, "have constructed a fantastical philosophy from a few experiments of the furnace." None certainly of the professed inquirers after truth, up to his time, were ever more extravagant and fanciful than the experimenters in chemistry; witness the Archæus of Van Helmont, and his army of spiritual agents, derived from the elastic fluids.

Among the private prejudices or the sources of error arising from the mental constitution of individuals, the natural *difference of men's capacities* is enumerated. Some minds, Lord Bacon thinks, are fitted more for discrimination, while others content themselves with merely noticing resemblances. "The great and radical difference of men's capacities," he says, "as to philosophy and the sciences, lies in this, that some are stronger and more fitted to observe the differences of things, and others to observe their correspondences: for a steady and sharp genius can fix its contemplations, and dwell and fasten upon all the subtilty of differences; whilst a sublime and ready genius perceives and compares the smallest and most general agreements of things. Both minds easily fall into excess, by grasping either at the dividing scale or the shadows of things."

With greater clearness and perspicuity, he adds to these personal

prejudices and tendencies, the *attachment to times*, in forming our ideas of truth and excellence. Some men have cherished an idolatrous admiration of the ancients; and have scarcely allowed even a comparison to be made between their works, and the monuments of modern genius. Thus the poetry of Milton has been underrated by those who have been so devoted to the remains of classical antiquity, as to be almost incapable of awarding due merit to productions in the vulgar tongue: witness the contests respecting the superiority of ancient or modern learning. On the other hand, while every thing modern has been despised only because it is not ancient, some have been misled by the opposite cast of mind, and have been inflamed with a constant passion for novelty; being disposed to yield little or no respect to antiquity, even where the experience of past ages might be of great service to us. This kind of prejudice has greatly declined, however, since Bacon's time—*truth*, and not the establishment of sects, having happily become the leading object of philosophical inquiries; “for truth,” says he, “is not to be derived from any felicity of times, which is an uncertain thing, but from the light of nature and experience, which is eternal.”

He exemplifies another kind of *particular* prejudices, or of the *Idola Specus*, by comparing the school of Leucippus and Democritus, among the ancients, to the “other philosophies,” alluding probably to those of Pythagoras, and of Socrates, Plato, and the Academics. Leucippus, Democritus, and Epicurus were *atomists*,—they taught that the whole universe is composed of either *atoms* or a *vacuum*, and that it was by the accidental meeting together of these atoms that the world assumed its present form and appearance. “This school,” says Bacon, “is so taken up with the particles of things, as almost to neglect their structure; whilst the other views the fabrication of things with such astonishment, as not to attend to the simplicity of nature;” referring to the lofty speculations and flights of imagination that characterized the Platonic school. “To contemplate nature and bodies in their simple elements,” he quaintly remarks, “breaks and grinds the understanding; and to consider them in their configurations and compositions blunts and relaxes it.” This *exclusive predilection for the minute or the vast* in nature, by which some of the ancient schools were marked, much resembles the second order of prejudices which is mentioned under this class. “In this manner, then,” concludes the account of these prejudices, “let contemplative wisdom proceed in dislodging and chasing away the *idols of the den*, which principally have their rise from *prevalent studies; excess of composition and division; affections for times*; and from the *great or small size of objects*.”

3. Another class of prejudices to be carefully avoided in our inquiries after *truth*, are termed, in the figurative but expressive language of Lord Bacon, *Idola Fori*; *Idols of the Market-place*; that is, *prejudices arising from mere words and terms in our common intercourse with mankind*: they proceed, in short, from the *imperfection of language*. These prejudices he pronounces “the most troublesome of all.” “Words,” says he, “are for the most part accommodated to the notions of the vulgar, and they define things by bounds that are most obvious to common minds; and when a more acute understanding, or a more accurate observation, would remove these boundaries, and

place them more according to nature, words *cry out and forbid.*" A familiar instance of this may be taken from our common mode of speech with regard to the heavenly bodies. We say of the *sun*, that it *rises* and *sets*, though every one, but the most ignorant, is aware that this is not strictly true, since the sun is stationary with regard to the planetary system; its *apparent* motion being owing to the *real* motion of the earth. In this instance, however, the delusion which words might produce, is obviated by the popular knowledge of astronomy which prevails. In many cases it is certain that the want of accuracy in the use of words and phrases has proved a great barrier to the pursuit and attainment of truth. How many violent disputes have there been, for instance, on *liberty* and *necessity* among ethical writers, while neither party has taken the pains first to say what he meant by these words; which might have saved both much time and much angry contention. Hence, in order to avoid controversies respecting mere words and terms, it is recommended to begin with these according to the "wise method of the mathematicians," and to reduce them to order and certainty by *definitions*. "Yet," it is justly observed, "these definitions themselves cannot wholly remedy the evil; for definitions consist of words, and words produce words; so that recourse must be had to particular instances."

Lord Bacon's meaning may be illustrated by such words as *sensation*, *will*, *benevolence*. We may define sensation, and say it is *feeling*, but what is *feeling*? What, for instance, is the feeling or sensation of *cold*? What is the sensation of *seeing*? None can describe these, it is obvious, to a person supposed never to have experienced them. *Will* may be defined *volition*, but this again is a mere translation; and if an intelligent being could be imagined who had never actually *willed* any thing, nor ever had any *desire* in his mind to do or say any thing, it would be utterly impossible to make him understand what *willing* is. A being of simple malevolence, or one who had never felt towards other beings any thing but *hatred*, could have no idea of the emotion of *benevolence* towards others: he could not know what it is to love them. But when a child once understands that *sensation* is a general name for all those immediate effects which arise from objects acting upon any of the organs of sense—a name for *seeing*, *hearing*, *smelling*, *tasting*, and *feeling* indifferently; when he learns that *willing* is that state of the mind which directly goes before any deliberate action; or that *benevolence* or *love* is a term expressing certain natural and delightful emotions towards his parents, brothers, sisters, and friends,—he then understands the meaning of these words by instances and examples. Or, if I wished to convey to the mind of another person the meaning of the word *gravitation*, or *attraction*, as it is employed in the Newtonian philosophy, instead of merely saying it is the *tendency* bodies have *towards each other*, I might state the simple fact, and say, when a body is let fall from any height it proceeds invariably to the earth, and more swiftly in proportion as it arrives nearer the surface: this is what is meant by saying that the body is *attracted*, or *gravitates* with accelerated velocity toward the earth: and when the inquirer is further informed that the earth itself also proceeds, however little, toward the falling body; and that the sun, moon, earth, and planets, all mutually move toward each other, more or less, in the same man-

ner, the general idea of what is intended by attraction or gravitation is gained; and it is understood simply to be a name for a certain *fact*, or *law* in the operations of nature, or rather of nature's Divine and Almighty Architect.

Mankind are apt to be led into errors by words in *two* principal ways; and first by the names of *things* which have *no existence* whatever. Of this kind, says Lord Bacon, are such as "fortune, the primum mobile, orbs of the planets, the element of fire, and the like figments which arise from false and imaginary theories." It is almost unnecessary to remind our readers that all such words as *chance*, *fortune*, *luck*, etc., are only names for human ignorance of a cause; and that in all the cases in which these words are applied to any kind of circumstances that occur either in the natural or moral world, there is the same necessity for supposing an agency of the Deity as in the greatest, and, to us, most certain events. *Primum mobile*, or the first mover, in Ptolemy's astronomy, was a supposed immense sphere, or hollow globe, which included within it all the spheres, or *orbs of the planets*; and fixed stars, and turned itself and all these round the earth in twenty-four hours! Idols of this kind, however, it is observed, are the more easily dislodged from the mind, because the direct remedy for them is the constant rejection of all mere theory.

But there is another species of delusion which may arise from words, that is likely to produce greater perplexity, and is avoided with greater difficulty. This delusion is produced *when words do not agree* to the *things* they are intended to signify, but are confused and ill-defined. Bacon adduces the various meanings that were formerly given to the word *humidum*, or *moisture*, as an example of this uncertainty: he shows that, according to the vague manner in which the word was used, it would apply to the most dissimilar things, and that *flame*, and *small dust* or *powder*, and *glass*, might all, on this principle, be said to possess *moisture*. It is evident that this uncertainty in the application of the term *humidity* or the quality of *moisture* arose from not considering moisture as a *relative* idea. For instance, quicksilver, with relation to some substances, as our hands or our clothes, is *not humid*, but it may be regarded so with reference to tin, lead, or gold; for it will adhere to their surfaces and render them soft and moist. Even water does not wet all things, for it runs off in round drops from the leaves of many plants, the feathers of birds, etc.; so that water itself is no more moist with regard to these, than quicksilver is with regard to our hands; unless by moisture we mean soaking with water merely. Our great philosopher complains that, in general, the notions of *quality* in bodies, were in his time exceedingly confused. Such were the notions of *gravity*, *density*, *tenuity*, *levity*. From what we know, indeed, of the philosophism which then prevailed, all attempts to reason on these terms must have been like grasping a shadow or beating the air. The words used to express the *changes* which bodies undergo, were also extremely vague and undefined, as *generation*, *corruption*, *alteration*. So likewise general names of substances, as *earth*; and *air*, or vapour. It was reserved for the science of modern times to use a more precise language, and to aspire at a magnanimity almost unknown to the ancients—that of frankly acknowledging man's ignorance; and the limitation of his faculties, rather than taking refuge

in the darkness of an ambiguous phraseology. Our readers will perceive from all that has been said, how much accuracy and precision of language depend on the advancement of science; indeed they mutually promote each other. What has been effected in chemistry by a reformation in the use of terms is well known. An imitation of this precision, so far as the nature of the given subject will allow, must lie at the root of advancement, not only in natural, but equally in moral and intellectual science; and here, as in chemistry itself, the advice of Bergman to Morveau will advantageously apply: "In reforming the nomenclature, spare no word that is improper."

4. The last general sources of prejudice adduced, as obstructing philosophical discoveries, are what are termed *Idola Theatri*; Idols of the Theatre; or the *prejudices and perversions of the mind arising from the fabulous and visionary theories and the romantic philosophies* that so long prevailed in the world. "We call them Idols of the Theatre," says Bacon, "because all the systems of philosophy that have been hitherto invented, or received, are but so many stage-plays which have exhibited nothing but fictitious and theatrical worlds; and there may still be invented and dressed up numberless other fables of the like kind." Of this last remark, *Hutchinsonianism* may, in modern times, be regarded as an example, in common with all other speculations that have been opposed to the Newtonian theory of gravitation; and which will be found equally opposed to the method of science here recommended. It was strange that, in the eighteenth century, in the full blaze of that light which was, as it were, *latent* in the Baconian philosophy, and which Newton had struck out—a system, not unlike that of the *vortices* of Des Cartes, should offer once more to darken the heavens, after they had been so effectually purified from the *atoms* and the *plenums*, the *orbs* and the *cycles* of an imaginary astronomy: this, however, is but an example of the power which one favourite notion can exercise over an acute and ardent mind; for Hutchinson assumed, as the basis of his theory, that Divine Revelation was designed to teach men philosophy as well as religion; and in the Mosaic account of the creation, he fancied he saw the physics of the true astronomy. His system, however, which may be considered as a kind of physico-theological romance, has been permitted to sink into its merited oblivion, while Revelation is now regarded as confined to its own sublime and proper province of making known the will of God to man, as to his conduct here, and the way of attaining felicity hereafter. The Newtonian philosophy cannot, on any consistent principles, be regarded as at variance with the communications of the Bible; and, founded as it is on the basis of *demonstration*, it cannot fail to stand the test of time. Gratuitous theories may impose on the imagination, like the *mirage* of the Egyptian sands; but, like this illusion, they must pass away: they may present to the eye a magnificence as gaudy and seducing as the *fata morgana*, sometimes witnessed on the coast of Calabria, in which the most beauteous landscapes, crowned with picturesque villages, superb palaces, and massy towers, seem to possess a real existence: all, however, is only suspended in the air, and the enchanted scene changes with the least shifting of the light, or the ruffling of the sea, melting away like a dream of the night—so must vanish at last all systems of philosophy and science that are not

founded on the solid basis of that *induction*, which it is the design of the *Novum Organum* to explain.

This source of error and prejudice, or the *Idols of the Theatre*, are more especially to be marked as closely connected with the *authority of great names*; and thus, not unfrequently, enslaving the understanding to an ignoble bondage, by what the schoolmen term *argumentum ad verecundiam*, or the argument addressed to the modesty of human nature. Prejudices of this kind stand on a different footing from the former three sources, and are perhaps the most remarkable instances of intellectual slavery. "For," says Lord Bacon, "the idols of the theatre are neither innate, nor are they secretly insinuated into the understanding, but are plainly forced upon it, and are received from fabulous theories and *false laws of demonstration*." The importance of returning to an independent and scientific method of inquiry, or, in other words, of thinking for ourselves, is urged by our author from the fact, that "a cripple in the right way may beat a racer in the wrong." The more vigorous, indeed, the mind is, which sets out in a wrong course, the further does it depart from the goal of truth and science. The method, however, which is here proposed, is adapted not merely to a subtil understanding, and a sublime order of faculties, but is level to the capacities of all, even the humblest. To draw a straight line, or to describe an exact circle, with the unassisted hand, might be a thing scarcely to be accomplished with certainty, whilst it is an easy task to do it by the help of a ruler and compasses, with the greatest accuracy. "All these idols," says Bacon, "are solemnly and for ever to be renounced, and the understanding must be thoroughly cleared and purged of them; for the kingdom of man, which is founded in the sciences, cannot be entered otherwise than the kingdom of God—that is, in the condition of a little child."—In further illustration of these prejudices, *some notice* is proposed to be taken of the *sects and kinds* of these false theories; of their *outward signs and indications*; of the *causes* of this so great disadvantage to science; and of the reasons of so lasting and general a consent in error.

III. *Different Kinds of false Systems of Philosophy.*

The next topic of the *Novum Organum* relates to the *different philosophical theories* which have given rise to the last of the four classes of prejudices; or the *Idols of the Theatre*. Fanciful and imaginary systems of philosophy derive no small charm, it is well observed, from their being so highly wrought: thus, to many, the fictitious drama is more attractive than true history. Lord Bacon divides these visionary systems into *three general kinds*—*sophistical, empirical, and superstitious*.

Sophistical philosophies, so called from their deceitful pretences, are those formed on careless and hasty observations and experiments, and filled up by the mind of the inventor at his own pleasure. Of this kind Aristotle's philosophy is a very eminent instance, among the other ancient systems, which were chiefly of the sophistical kind. Even the *similar particles* of Anaxagoras, the *atoms* of Leucippus and Democritus, the *heaven and earth* of Parmenides, and other *first principles* of the different sects of Greece, with all their incongruity, at

least savour somewhat of natural philosophy and experience: but Aristotle, both in his *Physics* and *Metaphysics*, utters little else than mere logical terms. Even in some of his other writings, where he makes greater use of experiment and observation, he appears to have passed a previous judgment on nature, and attempts to lead experience itself captive to his own opinions and his own humour: he forms a world of *categories* and *predicaments*; accounts for nature's varied operations by the scholastic distinction of *act* and *power*; asserts that there is but *one proper motion* in all bodies; and imposes numerous other fictions on mankind, which are sources of disputation rather than of truth.

Empirical systems are those formed upon a few *experiments only*, though these may be made with great exactness. The ancient chemists are adduced as examples, in their idle speculations on the four elements, founded on a few repeated experiments of the furnace. William Gilbert, who lived in Lord Bacon's time, and framed, as we have remarked, a system of philosophy on his experiments in magnetism, was a notable instance of this kind.

Superstitious systems are those in which certain philosophical theories are blended with religion, and the one is made subservient to the other. Of these the philosophies of Pythagoras and Plato are specimens; their theories being principally derived from their speculations on the nature and attributes of the Deity. Some theories of the earth in modern times may come under this denomination; and perhaps there is no more signal instance of this kind than the philosophy of Mr. Hutchinson, which we have noticed above. "This vanity," says Bacon, "of mixing things divine with things human is rather to be suppressed, as from it arise not only phantastical philosophies, but heretical religions."

In framing theories, the mind, it is observed, should be especially on its guard against two excesses, that of *dogmatism* on the one hand, and *scepticism* on the other, as these both tend to perpetuate prejudices, scarcely allowing the opportunity of their removal. Thus Aristotle, in order to cut off all occasion of doubting, invented questions,* and resolved them at his pleasure, as if he were the arbiter and final judge of nature; while Pyrrho and his followers, on the contrary, doubted of every thing, which was an abuse of the school of Plato, where the sceptic method was first introduced by way of jest and irony, to oppose the more ancient dogmatists. The former of these methods, or that of positively dogmatising, cannot but contract and degrade the mind, while the other must cast it into languishment and despair of ever finding the truth.

All these *Idols* of the mind which have now been noticed, have moreover been greatly defended and strengthened by false *proofs* and *corrupt demonstrations*. Words have been the tyrants of thoughts, and thoughts the slaves of a conceited logic, which has been associated with erroneous and hasty impressions from the senses—ill-formed notions arising from these impressions, and faulty induction, or such a method of establishing general principles, as has been the parent of all error, and the destruction of all the dignity and advancement of science. Thus it was that Gilbert limited his experimental inquiries to the loadstone; and the early chemists and their followers were

perpetually employed in the single art of *alchemy*. This word means the knowledge of the *substance*, or *composition* of any thing: and the two leading objects of the *alchemists* were, the change of the common into the precious metals, or gold and silver; and the discovery of a universal medicine—some elixir of immortality which they fondly hoped would annihilate disease, and prevent the irrevocable doom of humanity, death!

IV. *Characteristics of false Systems.*

Lord Bacon next gives some *intimations*, or *signs by which false theories and systems of philosophy may be known*, so as to prevent the impositions likely to arise from them.—One is, the *origin* from which a system of philosophy is derived; which, if it be false and erroneous, whatever immediately arises from it must of course be so too. The sciences existing in the time when the *Novum Organum* was written, were almost wholly derived from the Greeks, whose philosophy, as we have seen, was chiefly of the dogmatic and disputatious kind. This was the characteristic, generally, of their several schools; the writings of the more ancient of the Greeks, who opened no schools, having been lost in the lapse of time, such as those of *Empedocles*, *Anaxagoras*, *Leucippus*, etc., who applied themselves to philosophy with greater simplicity, and with less affectation and conceit, than their successors. The *source* of the existing philosophy was, therefore, corrupt.

If any indications may be gathered from the *times* in which the ancient theories were framed, no great good, it is further argued, could be expected from these. In the ages of the Grecian philosophy, the field of observation and experience was limited by the little knowledge the ancients possessed of the habitable world. Their history, also, of past events, and of the origin of nations, was to a great degree fabulous. They considered many regions uninhabitable where great nations have been since found to exist. Their travels were extremely circumscribed, and the art of navigation was exceedingly imperfect.

If, moreover, we judge from the actual *effects* of the Grecian philosophy, very little can be shown to have resulted from it tending to improve the condition of mankind, during the space of so many ages. Something, indeed, may have accrued from the pursuit of chemistry among the ancients and their followers: but this has rather happened by accident than been produced by design; for all their theories were injurious to the discovery of truth. The cultivators of the magic arts, too, in their jugglery, have stumbled on some few matters; but even these have been corrupted by imposture. The *alchemists*, however, Lord Bacon allows, made not a few useful discoveries while vainly pursuing their chimerical and visionary projects. We are indebted to their labour and perseverance for the method of preparing alcohol, aqua-fortis, vitriolic acid, volatile alkali, gunpowder, and a variety of other chemical compounds.

Another test of truth in philosophical systems may be derived from their *progress* and improvement: but, up to the seventeenth century, that is, for two thousand years, the sciences had been nearly stationary; or rather they flourished most in the remotest ages, and afterwards declined. Witness the decay of the Pythagorean astronomy till the time of Copernicus.

Again, the *confession of the authors* themselves of the systems that had prevailed may be regarded as a testimony of the strongest kind to the vanity and inefficiency of these theories; for while these men pronounced on nature with the utmost confidence and dogmatism, we may detect them at intervals assuming a desponding air, and complaining of the obscurity and uncertainty of all things. Hence arose the school of the *Academic* philosophers, who doubted of everything, and consigned mankind to the eternal darkness of a sceptical ignorance.

The great *disagreement and opposition*, moreover, that existed among the ancients, shows, says Bacon, that "the avenues from sense to reason were not well guarded, since the one subject of philosophy was so rent and split into error, that nothing remained fixed and stable in the existing notions derived from the Greeks; nor was there any certain rule of investigation."

The opinion, also, that was entertained in the sixteenth century, that a *general consent* prevailed in the philosophy of Aristotle, was a *fallacious* argument of its truth; for the prevalence of the doctrines of Aristotle and Plato was greatly owing to the accidental circumstance of their being preserved from the general wreck of human learning, which ensued on the irruption of the barbarous nations into the Roman empire. Besides, such a consent as that which is supposed, if proved to be ever so little founded on accident, would better deserve the name of *obsequiousness*; not being the result of a free exercise of men's judgments, all centering at last in the same conclusion, but the offspring, as it is evident, of prejudice, and an abject vassalage to the authority of names.—The character, therefore, of the systems of science and philosophy that had been current, was extremely unfavourable to the supposition of their truth, whether taken from their *origin*, their *fruits*, their *progress*, the *confessions* of their authors, or from *general consent*.

V. *Causes of Error in Philosophy.*

The next topic of the *Novum Organum*, and the *fifth* convenient section into which the former part of the work may be divided, relates to the *causes of error* in philosophical inquiry.

The first cause assigned by our illustrious author is, the *short space of time* which, notwithstanding the lapse of so many ages, had been at all productive in the discoveries of science. He beautifully compares duration to space, and places before us the emblem of a barren desert, as a fit representation of that lasting sterility which had reigned over the tracts of time. Scarcely six of all the centuries preceding the age in which he lived could be regarded as, in any degree, exceptions to this general winter of the human mind. The middle ages were proverbially periods of gross and palpable darkness. Men of leisure were found shut up in the gloom of monasteries; and rarely did a ray of genius emerge from these cloistered solitudes, and find its way into the theatre of human life, so as to improve and embellish it with inventions like those which have, in our happier times, rendered it a scene of ever new and increasing wonders.

Even at the best, the comparative *neglect* of the philosophy of *nature*, properly so called, may be regarded as another source of

the slumber of the human intellect, and of its inefficiency in attaining to anything like a just method of science. The sublimest geniuses, allured by gain, or by the love of speculation, exhausted their energies in the disputes of a scholastic theology; or, at a more early period, among the Romans, were almost wholly devoted to politics. Mathematical and natural science, the parents of all mental discipline, had lost the footing they had obtained among the remoter Greeks, almost from the time of *Thales*; and even the great moralist, *Socrates*, had contributed, in a considerable degree, to turn away men's minds from the contemplation of nature. Thus the most definite and tangible sources of our knowledge—those which are peculiarly adapted to fix and regulate the operations of the mind, by perpetually recalling its attention to what is seen, and felt, and heard, were abandoned; and the human imagination was suffered to roam in a shadowy and ærial region, amid a scenery that was not nature's creation, but its own.

Again, where some taste for the study of nature herself *did* exist, scarcely one single individual was found to devote himself *wholly* to this pursuit. Nature was still not sought for her own sake, but was made the handmaid of some profession; and to this she was enslaved. Nature was not regarded as the parent of the sciences; and these, by standing too much alone, resembled the branches of a tree attempted to be kept alive separated from the root and the trunk.

The *true end* of science also was *mistaken*, "which," says Bacon, "is to enrich human life with useful arts and inventions;" and philosophers had made it their chief object to be at the head of sects; to aggrandize their own fame; to gain dominion over the minds of men; or to obtain some other exclusively selfish end. Almost every kind of inferior aim was by turns the lord of the ascendant, while *truth*, immutable, unalterable truth, loved and sought for its own sake, was eclipsed, or cast into the shade.

Besides, had the end itself been right, yet the *method was wrong*. As this is the main drift of the first part of the *Novum Organum*, we can scarcely insist on it too much, since nothing is more important here than to remember, that so long as any gross impropriety exists in the *manner* of investigating truth, the most strenuous labour must be in vain. All things were left, as it is strongly expressed, "to the darkness of tradition; the giddy agitation and whirlwind of argument; the waves and windings of accident; and a vague, uninformed experience." The first inquiry had always been, to know what others had said and thought on the given subject. This was usually received, and to it were added the *vagaries* of the inquirer himself. Such a method could, of course, only propagate and perpetuate error; and in such a state of things truth still remained shut up as in a labyrinth.

The *blind reverence for antiquity*, also, which had possessed the minds of men, and the devotedness which existed to great names, well accorded with the feeble efforts of the human intellect, and formed a striking feature in the reign of darkness. The assertion of a philosopher was almost the only specific against error, and the chief support of truth: whereas, observes Lord Bacon, "truth is justly to be called the daughter, not of authority, but of time;" in other words, time and patience alone can furnish the opportunity of that observation and experiment on which knowledge must be legitimately founded. The argument

addressed to human modesty, as the logicians termed it, was, however, often received with a kind of religious awe, even when the proposition affirmed, if, indeed, understood at all, was revolting to common sense. It certainly ought to be no subject of complaint, that this is the peculiar delinquency of the age in which we live. Even the overpowering genius of Newton has not preserved his theory from opposition in very recent times—an opposition, nevertheless, only to be viewed as the result of that most desirable freedom of inquiry, which was almost unknown to the ancients, and which can, at no period, issue in anything but the additional, or, we might say, the superfluous, confirmation of the Newtonian philosophy. To believe without examination, however it may accord with our natural indolence, is unworthy of the mind of man. In such an assent, its noblest powers are more than dormant and useless: they contract, if we may so say, by every such repetition of what is not worthy to be called *belief*, a sort of rust and stiffness, that unfits them entirely for all original and unbiassed inquiry, and which ends only in rivetting the chains of ignorance and error.

Similar in its effect to the admiration of great names, is the *tendency to be dazzled* with whatever rises, in the least degree, above the ordinary level in the productions of the human mind. Too much satisfaction and complacency in what has already been attained may have the effect of obstructing further progress. This, Lord Bacon observes, has particularly shown itself in the inventions of the mechanic arts. We are, perhaps, more ready to rest in an empty admiration of what has been effected, and to amuse ourselves with the apparent opulence of human power, than to reflect on the little progress that has been made in bringing matter under our control, and to consider the vast field that still lies open before us. After all, in mechanical instruments the ultimate principle is very *simple*—all may be reduced to a few laws of nature. In a clock, for instance, which seems, in one view, to imitate the movements of the heavenly bodies, and in another, to resemble the pulsations of animals, by its regular and successive motions, a few principles only are ultimately employed, as the law of pendulums, depending chiefly on gravitation. With what sentiments, however, would the ancients have looked on such an invention as the steam-engine, in which, nevertheless, the whole of the novelty, strictly speaking, lies in the application of the expansive power of steam! The causes of retardation in the improvement of knowledge, dwelt on in this part of Lord Bacon's work, have certainly been counteracted, in our time, by that rapid succession of inventions which has marked the increase of the sciences, though, in other respects, there would be much more to foster the complacent admiration he speaks of.

Another considerable cause of error and ignorance to the world, is placed, by this most accurate observer, in the *pedantry* of philosophers themselves, who have contrived to impose on mankind by their pompous airs, and affected manner of teaching—by the trickery of a meretricious and bombastic oratory, and by the subtil divisions and definitions they have employed; so as to inspire the vulgar with a profound idea of their wisdom, and to leave the impression that the sciences were exhausted by their learned labours, and nothing remained now to be investigated. No doubt this has, in every age, been a fertile source of obstruction to human improvement. The most dignified, and even sacred

professions have been too often degraded by a conceit and a quackery which, while it has disgusted the discerning, as the subterfuge of incompetent effrontery, and has proved an injurious bar to the exertions of modest and genuine merit, and to the progress of pure truth, has not failed to gain its own selfish ends, in the plaudits of an ignorant multitude. The only cure for this evil is the general diffusion of knowledge among all classes of society, which is, most happily, a leading feature of the present illustrious times.

The ancient and erroneous systems of philosophy obtained an additional hold on the public mind, also, in consequence of the *vanity* and the *extravagant pretensions* of not a few individuals of more modern date. Lord Bacon had to encounter this disadvantage in the very enunciation of many of the topics of inquiry to which he desired to recal the attention of the world in a just and scientific method: we allude to his notices for increasing men's acquaintance with the mineral kingdom; for obtaining more information with regard to the winds and the weather; the means of prolonging human life, and other inquiries. He complains of the weakness and imposture of many who had amused the credulity of mankind with great promises, in reference to such topics as the retardation of old age—the relief of pain—cures for the deceptions of the senses—the method of exciting the affections by sympathy, or a species of animal magnetism—the exaltation of the intellectual faculties—the transmutation of substances, as professed by the alchemists—the procuring of celestial influences—divination of future events—the revealing of secrets—and other such like conjuring. Thus, as real history may sometimes have suffered in its credit from fiction, and there are some who would consign the conquests of Julius Cæsar to the same scale of probability with the fabled exploits of Arthur of Britain, or Amadis de Gaul, so the spirit for great designs has been quenched by the dread of what might prove chimerical and romantic, and men have been contented to repose in the solemn and received dogmas of antiquity.

"So great, moreover," adds Lord Bacon, "has been the pusillanimity and indolence of men, that they have been wont to satisfy themselves with *very slender performances*;" often exalting, with the title of new mechanical inventions, what were, in fact, nothing more than some trifling modifications of old ones—this has been another barrier, he considers, to the advancement of the sciences.

But one of the most formidable obstacles to the genuine knowledge of nature is to be found in the *superstition* which has mingled itself with the great and momentous subject of religion. We learn from Aristophanes, in his play of "*The Clouds*," that among the Greeks, those who first attempted to assign the natural causes of thunder and storms were condemned as the enemies of the gods. Nor did some of the early Christian Fathers, as our author remarks, meet with much less severe anathemas for daring to assert, on the evidence of infallible proof, the spherical figure of the earth, and the existence of *antipodes*, or people at the other side of the globe, whose feet are opposite to ours. It is known to most of our readers that Galileo, the inventor of the telescope, was consigned to the dungeons of the inquisition at Rome, for the crime of asserting the motion of the earth round its own axis, and was con-

demned to do penance, by repeating once a week the seven penitential psalms for the space of three years!—The blending of the scholastic and Aristotelian philosophy with religion, in the middle ages, was a fruitful source of this kind.

Lord Bacon's remarks on this subject are so just, and so important, that we shall quote him at length. "As things now are," he says, "it is still more difficult and dangerous to discourse on nature, on account of the summaries and methods of the scholastic divines, who have, with all their might, reduced theology to order, and fashioned it into an art; and have, moreover, blended too much of the disputatious and thorny philosophy of Aristotle into the body of religion. And to this subject, though in a different respect, belong the labours of those who have ventured to deduce and confirm the truth of Christianity from the principles and authority of philosophers; celebrating with great pomp and solemnity the intermarriage of faith and sense, as a lawful union, and soothing the minds of men with a grateful variety of matter, while at the same time they have rashly and incongruously mingled things divine with human. In such medleys, moreover, of divinity and philosophy, only those things are admitted which are *now* received in philosophy, whilst things that are new, though better than the old, are almost entirely excluded. In fine, we perceive, that through the ignorance of certain divines, the passage to any philosophy, though ever so true, is almost blocked up. For some are foolishly alarmed lest a deeper inquiry into nature should transgress the bounds of sobriety; and they injudiciously wrest what is said in Scripture against those who pry into divine secrets, and apply it to the hidden things of nature, which are nowhere forbidden. Others, with greater craft, imagine, that if men are kept in ignorance, all things may be the more easily managed by dexterity of hand, and the *divining rod*, which they think is highly serviceable to religion: this, however, is nothing else than to aim at pleasing God by a lie! Others, again, dread the effect of example, lest any changes and movements in philosophy should fall at last on religion itself. Others are afraid lest, in the inquiry into nature, something should be found which may overturn religion, or at least undermine it, especially among the ignorant. These two latter kinds of fear appear to me altogether to savour of a grovelling wisdom; as though men, in their secret thoughts, were doubtful and distrustful of the stability of religion, and of the power of faith over the senses, and on this account apprehend danger to it from the search after truth in natural things. But whoever considers aright will acknowledge, that, next to the word of God, the most certain cure of superstition, and the best aliment of faith, is the knowledge of nature. Therefore philosophy is given to religion as her most faithful handmaid; the one manifesting the will, the other the power, of God: nor did he mistake who said, 'Ye err, not knowing the Scriptures, and the power of God,' thus inseparably blending and joining together the knowledge of his will, and the contemplation of his power. In the mean time, it is less to be wondered at that the increase of natural knowledge has been restrained, when religion, through the ignorance and incautious zeal of some, has been set in opposition to it."

The *customs of learned societies* had also, up to the time of Lord Bacon, proved a serious hindrance to the advancement of knowledge.

In the schools and universities of Europe, scarcely any room was given for improvement, which was branded with the invidious name of innovation, an alarm that could not but prove fatal to the interests of pure truth. If any one dared to exercise the right of judging for himself, he could hope for no encouragement from others; and if he possessed sufficient independence of mind to stand alone, he must pay for his temerity with the loss of his fortune and his good name. All was rigidly confined within certain rules, and a given track was marked out as that in which every one must go without deviating either to the right or left. Little scope was afforded to the power of genius, which could hardly expand upwards beneath the overwhelming load of scholastic prejudice that weighed it down. Perhaps even in our own enlightened age, few of the universities of Europe are entirely emancipated from these shackles, as may be seen from the tendency there has always been to adhere to an *Aristotelian division* of the sciences, instead of following nature. "Unwilling as I am," says Mr. Stewart, at the close of his second volume on *The Philosophy of the Human Mind*, "to touch on a topic so hopeless as that of academical reform, I cannot dismiss this subject without remarking as a *fact*, which at some future period will figure in literary history, that two hundred years after the date of Bacon's philosophical works, the antiquated volume of study, originally prescribed in times of scholastic barbarism, should in so many universities be still suffered to stand in the way of improvements, recommended at once by the present state of the sciences, and by the order which nature follows in developing the intellectual faculties."

Lord Bacon also complains that in his time arduous endeavours at improvement were *not rewarded*. The power of advancing knowledge must proceed from the energies and exertions of superior minds, but the rewards which sweeten labour were in the hands of the vulgar and untutored. Even the boon of praise was, he observes, withheld, since the flights of elevated minds are above the reach of the crowd, and are disregarded through the force of prevailing prejudices.

Finally, science was kept in bondage by a kind of sullen *despair of success*, and the supposition of impossibility attaching to any new endeavours.—Such are the causes assigned in the *Novum Organum* as the principal sources of continued error and uncertainty in the pursuits of knowledge and science.

VI. *Grounds of hope regarding the Advancement of Science.*

In that division of the work which we may call the *sixth* section, our author proceeds to treat of the *grounds of hope* for the further advancement of the sciences, and the general improvement of knowledge. Thus the *improvement in navigation* was to be regarded as the harbinger of good to the sciences, as enlarging the field of observation, and tending to increase our knowledge of nature.

The very *errors of past times* likewise, properly viewed, furnished a hope of amendment. Demosthenes endeavoured to rouse the Athenians from despondency to arm themselves manfully against Philip, their great enemy, by telling them that even their past misfortunes should be re-

garded as an omen of their future success, since they arose from their own negligence; whereas, if they had strenuously exerted themselves, and had still been unsuccessful, they might justly have despaired of the future: so, in the sciences, it would have been presumptuous to expect any great improvement, if we could have supposed mankind to have travelled so long in the proper road to truth without reaching it; but as they had evidently mistaken the way, hope of future success must be sought in first returning to the right path. The true method of science is ingeniously compared to the economy of the bee, which first gathers matter from the fields and gardens, and then digests and prepares it for use by her own native powers: "so," Lord Bacon observes, "the matter of philosophy must be carefully collected from nature, and then, after being digested and elaborated in the understanding, must be treasured up in the memory," in other words, additional hope of advancement in the sciences is to be found in the union of things that had been disjoined; that is, a strict combination of *experience with calculation and reasoning*. In all the schools of Greece, natural philosophy was blended with some foreign admixture, and was never studied purely and by itself. The Aristotelians corrupted it with a perversion of logic; the school of Plato mixed it up with an imaginative theology; the second school of Plato, Proclus, and others, made it to arise out of mathematics; whereas it is justly remarked that mathematics ought "not to generate or create natural philosophy, but only to terminate and perfect it;" that is, the facts and laws of nature must be sought independently, or in Nature herself—then mathematical reasoning may be applied to estimate and measure them, as has been exemplified in several of the tracts already before our readers. A return to the study of natural philosophy in a *pure and separate form*, was another source, therefore, of hope.

So also it might be expected that in future some philosopher might arise of sufficient independence of mind and lofty genius to free himself and the world from all the old and hackneyed theories: such a person, it is lamented, had not then appeared. How prophetic this was of the immortal Newton, who burst upon the world almost immediately after the death of Bacon, his forerunner—and how completely he emerged from the rude and undigested chaos of ancient fables into the light of truth, as those very comets whose laws he laid down issue from the dark abysses of space to their perihelion, the reader is sufficiently aware.

Much, very much, is also augured, as likely to arise from a better *history of nature* than had as yet been collected. The accounts which had been extant of the appearances and facts in nature had been chiefly founded on popular reports, indolent observations, and often on mere idle tales; and the whole had been so framed and turned as to strengthen the existing opinions in philosophy. Almost every thing in the history of nature was undefined and vague; much good must, therefore, needs have been expected to accrue from a more accurate register of facts and experiments. Bacon exhibits a rough sketch of such a history of nature in his *Sylva Sylvarum*, in his *Tables*, and in other parts of his works; the merits and defects of which we shall have occasion to notice hereafter.

Similar advantage was to be anticipated from a more enlarged stock

of *mechanical experience*, and a more enlightened attention to the most instructive facts of this kind. The workman is apt to think only of what is useful to his immediate work, and is not concerned about the discovery of truth: but, in order to improvement, recourse must be had to experiments, which, though useless, perhaps, as to direct and immediate profit, may be of great importance as to general information.

To this larger and more accurate stock of experience, Lord Bacon again insists, must be added the *method of induction*; or, as before explained, the pursuit of knowledge by reasoning from particulars to generals, from which every thing is to be hoped. In order to render this method as efficient as possible, it is strongly recommended accurately to commit to writing all the materials of philosophy, that is, the facts and observations on which general principles are to be founded; by no means trusting them, as had too often been done, to the memory, whose defects were usually supplied by a fanciful invention. To give this method still greater perfection, it is remarked that *tables* should be used for the clear arrangement of the facts, according to the nature of the subject; and from these tables *axioms*, or general principles, should be carefully formed, gradually rising from the less to the more general. It must be acknowledged, indeed, that many discoveries had been made accidentally by the alchemists, while seeking to make silver and gold; yet it is evident that more is to be expected in inventions from industry and method, whether we consider the number of such discoveries, the saving of time, or the adaptation of the things discovered to the supply of our wants. Men are more likely to find what they are carefully and intelligently in search of, than what is left merely to the operation of blind chance.

It was to be regarded as an additional ground of hope that *some things* already discovered were such as had previously never entered the mind of man; or which would, in all probability, have been despised as impossibilities, if any one had declared them likely to be found out. Gunpowder, though a destructive invention truly, may be taken as an instance. If, before this discovery had been made public, it had been declared that there was a method of battering down walls, and making an impression on the strongest fortifications at great distances, those who heard of it would instantly have supposed that this was effected by increasing the power of the common engines of war that were previously in use, as battering rams, and other machines of the same kind; which, of course, must be done by means of additional weights, wheels, and levers, and the various combinations of the mechanical powers; "but no one," says Bacon, "would have thought of a fiery wind which should blow with such a prodigious expansive violence, no obvious examples of such effects having been previously seen, except in the sublimer operations of nature, storms, thunder, and earthquakes, which it would not be supposed were imitable by art." Perhaps, to the ancients the expansive force of steam, now so extensively employed, would scarcely have appeared less wonderful, which, while it possesses such amazing power as to produce the most terrible effects when allowed to explode by being confined, is yet capable of being regulated at pleasure, and directed to an immense number of useful works with the greatest advantage. The invention of silk is mentioned as

another example. So, likewise, if, previously to the invention of the compass, it had been said that a certain instrument should be made known which in the open sea, and in the dead of night, when neither stars nor moon appeared, would exactly point out the quarters of the heavens, and that this instrument was nothing more than a metallic substance, which might easily be overlooked among the similar productions of the earth, this would have seemed almost incredible. Whence it is argued that many other things may yet remain in nature that might be of great service to mankind, which have little relation or analogy to the things already discovered.

Again, on the other hand, there are inventions of such a kind as easily to be overlooked for want of method, though they may almost, so to speak, stare men in the face. While some things, as gunpowder, silk, (the compass, sugar, paper, may seem to depend on certain properties to be developed by Nature herself, yet other things, the art of printing, for instance, contains nothing that is not obvious and completely within human power; nevertheless, the world was for many ages destitute of this admirable invention, which is so intimately connected with the propagation of knowledge. Hence a ground of hope that science might be improved was to be drawn, not merely from the consideration of the unknown operations of nature hereafter to be discovered, but from the probable result of transferring, compounding, and variously applying those laws and operations which were already known.

Lord Bacon also derived encouragement from reflecting on the immense expenditure of time, genius, and property that had been bestowed on *pursuits of little or no use*, alluding, probably, to alchemy, the professed magic arts, astrology, etc.; since, if but a small portion of this labour should come to be bestowed in a proper manner, and on proper objects, great things might be expected to result: especially would such extensive and laborious *histories* of the *facts* and *operations* of nature as he recommended be the source of expectation. "A great and royal work truly this," he says, "and of much labour and expense."

As a further ground to suppose that human knowledge might be improved and increased to an extent of which some were inclined to despair, Lord Bacon introduces *his own example*, "not," he modestly says, "by way of ostentation, but because it may be useful." He argues, that if he himself—a man as much employed in civil affairs as any other of the age in which he lived, for he was Lord Chancellor of England at the time his *Novum Organum* was published;—if he, a man of but infirm health, has had the honour to lead the way unassisted by any coadjutor, in the new and untrodden path which he here attempts to point out to posterity; what may not be expected from men of leisure; from a union of labours; from a proper division of them, and from opportunities afforded by the succession of ages? He concludes his remarks on the grounds on which is founded the hope of advancing the sciences, by intimating that even were this expectation much less than he rightly deemed it to be, or, to use his own language, "although a much weaker and fainter breeze of hope should breathe from *this new continent*," or world of science, which he is endeavouring to point out;

yet it would be worth men's while, at all events, to make efforts to explore nature by the light of this new method: there was, at least, a *chance* of success resulting from their labour; whereas, to sit down in despondency, and to decline all enlightened exertions, could lead to nothing but ignorance and error, and was unworthy of the dignity of the human mind.

VII. *Further Remarks preparatory to the Inductive Method.*

The last or seventh section into which this former part of the *Novum Organum* may be divided, is designed to give *some further idea of the new method here proposed of interpreting nature*. This, however, is done rather by way of guarding the reader against erroneous expectations than by developing the method itself which he reserves for the second part. "Having now levelled and polished the mirror," says our author in his figurative and expressive diction, "it remains that we set it in a right position, or, as it were, with a benevolent aspect towards the things we shall further propose. For to a new undertaking, not only a prepossession in favour of a rooted opinion is prejudicial, but a false notion and imagination of what is proposed to be done is equally so. We must, therefore, endeavour to convey a just and true idea of what we intend."

In order to prevent misapprehension, he again cautions his readers, as he had done at the outset of his work, against supposing that he aspired to be the founder of a *new sect* in philosophy, after the manner of the ancient Greeks. It was his aim, and it was an aim worthy of such a master-spirit, not to reign over men's opinions, but to conduct them into the temple of truth, from whose inmost sanctuaries they might obtain such a panoply as would enable them to extend the boundaries of man's power over nature, not in the noisy triumphs of a scholastic warfare; but in glorious victories over ignorance, prejudice, and error. Though he thus disclaims the idea of attempting to found a new sect, it must be allowed that he possesses that honour in the highest sense; for if we were, in the most general manner, to designate the philosophers of modern times, in contradistinction to the Aristotelians and Platonists of an earlier period, we should call them *Baconians*: Bacon may himself very justly be accounted the Father of the modern philosophy. He, however, contents himself here with aspiring, as he says, "only to sow the seeds of pure truth for posterity, and not to be wanting in his assistance to the first beginning of great undertakings."

Lord Bacon wishes his readers, in perusing his work, not to be prejudiced against the method he recommends, nor disappointed on finding that he has not made any very striking *discoveries*, which, indeed, he does not profess to have done; his design, in fact, being obviously of a more general nature. For though in the *Novum Organum*, and in his other works, indications and outlines of discovery are to be found, yet he considered that, up to his time, there was no sufficient collection of facts and appearances, to enable any one to enter with advantage on the genuine interpretation of nature. Still he did not wish to discourage any from employing their sagacity in attempting to make discoveries on the foundation of what was already known, or

from making use of his own tables and outlines of a history of nature, to this end; but his own great object, he repeats, was to prepare the way for future improvements, and not to neglect this his main design, for the sake of hasty and unseasonable diversions, like "Atalanta" in the fable, who lost the race by stopping to pick up the golden apple. "For we do not childishly affect golden fruit, but place every thing in the victory of art over nature."

He next cautions the reader against the effect which may be produced on his mind from meeting with some experiments in the *history* of nature, and *tables* of invention, which seem *not well verified*, or which may even be absolutely *false*. Such errors are to be expected to creep in at the dawn of the day of Science, and Lord Bacon was certainly by no means free from them. It must not, on account of a few such oversights, be suspected that the inventions he would point out are grounded on doubtful principles and erroneous foundations; and he argues that if any should be disgusted with some particular mistakes in his account of facts in nature, what must be thought of the remiss and negligent method that had hitherto been employed, and what of the philosophy and of the sciences that were built upon such "quicksands?"

Nor are men to turn away from the inductive method, or from the experiments it demands, as if in some cases it dwelt too much on what might seem *minute*, or *trite* and *vulgar*; since great mischief has arisen from many things having been spoken of as known and ascertained, of which, in fact, little was understood. Thus, in the philosophy that was prevalent, *gravity*, the *celestial motions*, *heat*, *cold*, *hardness*, *fluidity*, *density*, *animation*, *similarity*, *organisation*, were all the subjects of dogmatic assertion, while little that was satisfactory was said respecting them. Men, however, must condescend to attend to the commonest things if they would acquire knowledge, and to things displeasing to the senses. The design here is "not," he says, "to build a capital or erect a pyramid to the glory of man, but to found the temple of the universe in the human intellect." None are to suppose, what the vulgar are too ready to imagine, as well as all who were devoted to the existing philosophy, that the minutiae here laid down are tedious and subtil; they ought rather to consider that, for a time, efforts should be made to increase the materials of knowledge, to kindle the light by which nature may be examined, and that a too great impatience for immediate advantage should be checked. If any one should be inclined to disregard the cautions, principles, and axioms laid down in the method of induction, as needless subtilties, what would he say to the schoolmen, who are full of subtilties, 'without end as without fruit?'

As an apology for what to many would appear a *bold* and *daring* attempt—that of rejecting all the sciences, and all the ancient masters in philosophy as with one stroke, without admitting the authority of any one single renowned name of antiquity, and trusting only to his own unaided strength—the author remarks that, were he disposed to act insincerely, it would not be difficult to persuade men that what he here attempts is but a revival of the most ancient method of Science, before nature was pompously ushered in with the "flutes and trumpets of the Greeks;" and, well acquainted as Lord Bacon was with the mythology of the ancients, it would have been easier perhaps for him

to have gained over the admirers of antiquity by this expedient, than to render palatable a system which presented no gaudy and alluring theories, and which came out entirely as a modern innovation. But with that astonishing degree of freedom from the shackles of prejudice, considering the time in which he lived, and that devotedness to natural truth for its own sake, which was so characteristic of this great philosopher, he disdains all such "stratagem and imposture," and relies exclusively on the evidence of things themselves. It is his object to place before the mind, not the mock models of the world which others had framed, of which the theories of Aristotle, Plato, and Epicurus, are specimens, but to present the world's true model as it exists in nature—to trace before the eyes of men the exact lines of truth.

Another objection, which it is supposed may be alleged, is, that, notwithstanding all the labour here employed to impress on mankind this new method of studying the Sciences, it will probably do no more than land us at length in some one of those systems of philosophy which prevailed among the ancients—that they, in the beginning of their investigations, procured a large stock of observations and experiments, and digested them into books and tables, as is here recommended, and from these sources extracted the matter of their theories; but thinking it needless to publish their notes and minute observations, those materials of their labours are now lost to us,—as architects, after a building is finished, take down the scaffolding and framework, and remove them out of sight. To this it is answered, that though it is difficult to suppose the ancients completed their works without some such collection of materials, yet, at all events, it is certain, from their writings, that their method of philosophizing was no other than flying hastily from some particular examples, to general conclusions; and if any new examples occurred, bearing an aspect hostile to their favourite ideas, they either contrived to make them seem to square with these, or else struck them out as exceptions, thus sacrificing every thing to their beloved theories. Now the very method here insisted on, Bacon argues, of rigidly adhering only to those principles which are common to all the particulars and examples, precludes the possibility of arriving at the same results with the ancients.

Nor can it be fairly charged upon this method of carefully attending to all the facts of the case before drawing the conclusion, that it leads to *scepticism*, since it is not the disposition to doubt, but the art of *doubling property*, that is alone inculcated; and it is preferable to know something in a certain manner without supposing we know all, than to think we know all, and yet remain in actual ignorance of that which is most necessary to be known.

Lest it should be supposed, moreover, that the proposed plan only extended to the improvement of *natural* philosophy, more properly, so called, he distinctly informs his readers that his design is of the most general kind possible. The method of induction is equally useful in all the sciences. It is alike applicable to *ethics*, *politics*, the *philosophy* of the *human mind*, *chemistry*, *botany*, and every other branch of knowledge.

As a further stimulus to a vigorous pursuit of science in this enlightened method, this first part of the *Novum Organum* closes with a

few additional reflections. It is urged that the discovery of *truth*, and noble inventions, holds the most *excellent* place among the actions of mankind. Antiquity, with all its errors, was perfectly alive to this sentiment, as is sufficiently evident by its attributing *divine* honours to the inventors of the arts, as to Prometheus, who is represented as being the giver of fire to mortals, and is celebrated in Æschylus as a deity—while it was usual to award *heroic* honours chiefly, to mere legislators and the founders of empires. The inventions of science, it is observed, “benefit mankind to the end of time ; while the advantages conferred by warriors and statesmen may last, in many cases, but for a few ages, and sometimes have their origin in tumults, and the most terrible desolations of war.” The effects of the invention of printing and of the mariner’s compass, for example, have been altogether prodigious : by these great instruments, navigation and commerce have been extended over the whole earth ; “divine and human learning,” to use the words of Milton, “have been raked out of the embers of forgotten tongues,” and the face of the world has been changed, in all its features, physical and moral.

The design of promoting the advancement of the sciences is further pronounced a far *nobler* object of *ambition* than either *private* aggrandizement, or even *patriotism* itself. “The first,” says Lord Bacon, “is vulgar and degenerate ; the second, that is, the ambition of those who endeavour to raise their own country in the scale of nations, is more noble, but has not less of cupidity : but if any one should labour to restore and enlarge the power and dominion of the whole race of man over the universe of things—this kind of ambition, if so we may call it, is without doubt more wise and dignified than the rest. Now this power of man over things is entirely founded in arts and sciences.”

“Finally,” adds this illustrious author, “should any one object that the arts and sciences may be abused to *evil* purposes, as luxury and wickedness, let this sentiment be allowed to have no weight. The same objection would equally apply to all the most excellent things in the world—as genius, courage, strength, beauty, riches, and even light itself. Let the human race regain their dominion over nature, which belongs to them by the bounty of their Maker, and right reason and sound religion will direct the use.”

Thus did this vast genius point out to mankind the causes of those errors which so long effectually obstructed the paths of science ; thus did he encourage them to hope for a brighter æra, and give directions for the more successful pursuit, in future, of knowledge and truth. The second part of the *Novum Organum* contains a further development of the principles of the *Inductive Method*, with the author’s own examples of its use : and it will form the subject of another Treatise.

ACCOUNT OF THE NOVUM ORGANON.

THE SECOND, AND CONCLUDING PART.

HOMO, NATURÆ MINISTER ET INTERPRES, TANTUM FACIT ET INTELLIGIT
QUANTUM DE NATURÆ ORDINE RE VEL MENTE OBSERVAVERIT: NEC
AMPLIUS SCIT, AUT POTEST.—*Nov. Org.*

WE now proceed to give to our readers a view of the remaining part of the *Novum Organum*, as contained in the Second Book. Lord Bacon's design here is—to unfold his plan more particularly; and to convey some idea of the actual operation of that method of studying nature which he had the discernment to perceive was so absolutely essential to the advancement of all real science; and which he had the independence of mind to lay before the world, at a time when philosophers were generally devoted to hypotheses and fancies, and seemed but ill-disposed to an humble and laborious search after truth for its own sake, or to give encouragement to any one who should aspire to this arduous and honourable course.

We shall, as before, give the analysis of Bacon's doctrines, with such remarks and additional illustrations as may tend to throw light upon them. We are aware, indeed, that this part of his philosophical works has been regarded, and not unjustly, as somewhat laboured and obscure; but surely we must not forget the disadvantages under which he wrote; nor the wonderful revolution in science which he was the first instrument in effecting. It is certain, indeed, that, at the time when he flourished, the spirit of rational inquiry was not utterly unknown. In some few minds there was already a rising tendency to throw off the yoke of ancient systems, and some few instances were not wanting of the successful use of experiment; but no one had hitherto had the boldness and the genius, at once to make a formal attack on the general order of things as they existed in science, and to frame the grand and universal outline of another and a better plan. It was reserved for Bacon to proclaim aloud to the ear of Science, that she could only hope to be regenerated by first sacrificing herself on the altar of Truth; and that if ever she took an upward flight, she must pass a fiery ordeal, and rise like a phoenix from her own ashes.

Bacon, in this respect, stood alone; and if his *New Machine of the Sciences* appear, on more minute examination, to be somewhat cumbrous and defective, it was still a mighty effort to have devised such an instrument at all. If the genius of the new philosophy first issued from the thick darkness of the middle ages, wearing the garb and speaking the cramp language of the schools, this was perhaps an unavoidable consequence attaching to the period of its birth. The enlightened style of philosophy which now prevails, is certainly nothing more than the spirit of what Bacon taught, freed from all needless technicalities and incumbrances; and exercising, to the best advantage, its own proper energies. If Bacon did not perfectly exemplify his own rules of philosophizing, and if we sometimes see, as is certainly the case, the remains of ancient error in his con-

clusions, we should remember that he kindled the broader light we now act in, and which makes us discern clearly the imperfections of his own method. It is he who has enabled us to consider as ordinary and manifest truths, propositions utterly denied to his predecessors; and to complain of things as obscure, which to him were new, and were seen across the settled and distorting mist of error, and to us are clear only through the purer medium of his philosophy.

The second book of the *Novum Organon* may be divided into three parts; which comprise Aphorisms, or remarks on what is termed *the Discovery of Forms*; *Tables* in illustration of this discovery; and the *Doctrine of Instances*.

Section I. *Of the Discovery of Forms, or Causes, in Nature.*

AFTER the primary object of ascertaining *facts*, or collecting the history of nature with regard to any subject of inquiry has been effected, the next aim proposed is, by comparing these different facts, to produce certain *changes* in matter; and to discover the ultimate *causes* on which its qualities depend. "The object and aim of human power," says Bacon, "is to produce a *new nature*, or natures on a given body; and the object and aim of human knowledge is to discover the *form* of a given nature; that is, its real difference; the nature which makes it what it is (*naturam naturantem*), or, the source whence it flows."

The scholastic word *form* here employed is borrowed from the Platonists, though with a meaning different from theirs. Plato and his followers adopted the notions before held by the Pythagoreans with respect to *forms*, *ideas*, and *essences*; and regarded the various configurations, or shapes of matter, as nothing more than copies of their *essences*, or *ideas*, as existing in the divine mind. Thus, for example, since the squares or circles actually drawn by the mathematician are never absolutely accurate, they supposed that their true *archetypes* or *patterns* are to be found subsisting by themselves in the mind of the Deity. Now Plato, and his school, maintained that this perfect *intellectual world* was discoverable by contemplation; and that while the visible creation is the object of *sense*, these ideas, or essences—the *forms* of things abstracted from matter,—are the proper objects of *science*. Bacon, in his work on the *Advancement of Learning*, while he pays the tribute of praise due to Plato's genius, condemns, as well he might, his mystical philosophy; and intimates that the *forms* which he himself proposes to discover are to be found *in matter*, and not *out* of it. In another passage in the *Novum Organon*, he expressly defines what he means by *forms*, in the following manner:—"When we speak of *forms*, we understand nothing more than those *laws* and *modes* of action which regulate and constitute any simple nature; such as heat; light; weight; in all kinds of matter susceptible of them: so that the *form* of heat, or the *form* of light, and the *law* of heat, or the *law* of light, are the same thing; nor do we ever lose sight of practice, and things as they are."

"The form of any nature" is, in another place, defined to be "such, that where *it* is, the given *nature* must infallibly be. The form is perpetually present when that nature is present; ascertains it universally, and accompanies it every where. Again, this form is such, that when

removed, the given nature infallibly vanishes: therefore the form is perpetually wanting where that nature is wanting; and thus confirms its presence or absence, and comes and goes with that nature alone."

In the language of Bacon, then, the *form* of any substance is its *essential nature*—the *form* of any quality is that which constitutes that quality. Thus, if the subject of investigation were the quality of *transparency* in any substance, the *form* of it is something of such a nature that, wherever it is present, there is transparency; and wherever there is transparency, that which is here scholastically termed the form, is likewise present. The *form*, he says, is the same thing, as regards our knowledge, with the *cause*; not limiting the meaning of this word to the *antecedents* or *circumstances* which immediately produce a succession of *events* or *changes* in matter, but including also the source from whence *permanent qualities* in body are derived. In short, the *discovery of forms* may be regarded as signifying the discovery of the *laws of nature* in general.

It may serve to facilitate our apprehension of Bacon's ideas, if we carry along with us the remark, which has not improperly been made, even by his greatest admirers—that he appears, from the language he sometimes employs with regard to forms, to have placed the ultimate aim of philosophy beyond what it is, in all probability, given to man to reach, however rigidly he may employ his faculties, according to the method here recommended. He seems to think that a knowledge of the *ultimate essences* of the qualities, and powers, or properties of matter, lie open to human scrutiny; that we can discover, for instance, wherein consists the *essence* or *nature* of *transparency*; of *cold*; of *heat*; of *colour*. Upwards of two centuries, however, have rolled away under the auspices of Bacon's system; and no one would as yet affirm that we have actually arrived at the boundary of nature, so as to have discovered the essence of matter itself, or of any one of its various modifications. We are still ignorant, strictly speaking, of the *causes* of the various operations of nature, after ages of laborious and scientific investigation; nor will the philosopher profess to have ascertained, with regard to any one series of these causes, or successive events and changes, that he has, beyond all possibility of doubt, at length arrived at the beginning of the series; that he has laid his finger on the ultimate link in the whole chain which is held by the hand of Omnipotence; and that he has traced the identical point at which these second causes merge, and are lost in the secret agency of the great First Cause of all; if indeed it be not more proper to consider all second causes as nothing more than so many constant actions of the Deity, regulated by his own laws.—In the case of *heat*, for instance,—by conducting inquiries in the spirit of the inductive method, many of the effects and properties of this powerful agent have been discovered; but its *form*, to use Bacon's language, or, in other words, *what heat is*, has not been ascertained. Perhaps a complete knowledge of its essence might, even if it could be known, conduce less to practical uses, than we may be ready to imagine: certain it is, however, that the question still remains undetermined, whether heat be a subtile fluid, and therefore of a *material* nature; or, as Bacon himself supposed, nothing more than a certain *motion* among the particles of bodies.

The same remark is applicable to the other great agents in nature,

as *gravity, electricity, light, magnetism, elasticity*. Perhaps our notion of gravity is as simple as any, since its *one* property is the law of its decrease with the square of the distance; but whether this, and the rest have, or have not, any second causes beyond themselves, none presumes to say. While it would be unphilosophical to assert that more *can never* be known of these agents than what is already ascertained, it may be observed that, even should Bacon's aims, as to the discovery of forms, always prove to have been too high for mortals to fulfil, this is no disparagement whatever to his method, which still remains applicable to the investigation of causes, to the uttermost limits that can be reached by the perseverance and ingenuity of man.

"To the discovery of forms," proceeds Bacon, "belongs that of the *latent process* (*latens processus*); continued from the manifest producing cause of changes in bodies, and what is obvious to the senses, up to the giving of the form itself," that is, the ultimate law of nature in the particular case; or, at least, what appears to be that law: "there also," he adds, "belongs to it the discovery of the *secret structure*, (*latens schematismus*;) of bodies that are *quiescent* and exhibit no motion. The *latent process* we speak of does not here mean certain visible measures, or signs, or steps of procedure in bodies, but a perfect continued process, the greatest part of which escapes the sense. Thus, for example, in every generation and transformation of bodies, it comes to be inquired, what is lost, or flies off; what stays behind; what is added; what dilated; what contracted; what united; what separated; what continued; what cut off; what impels; what obstructs; what prevails; what yields, etc.: nor are these things only to be sought in the generation, or transformation of bodies; but, after the same manner, it comes to be inquired in all other alterations and motions, what precedes; what succeeds; what is quick; what slow; what gives motion; what governs it; and the like. But all these things remain unknown and untouched in the sciences, which are at present formed in a very gross and perfectly inadequate manner."

† This *latent process*, undoubtedly a grand object of philosophical inquiry, to the farthest verge of human power, is, therefore, in modern language, the invisible and secret progress by which sensible changes are produced; and involves what has been termed the *law of continuity*; that is, the law by which quantities which change their bulk, or their places, do so, not abruptly, as in many cases may seem to us, but by passing through all the intermediate magnitudes, or distances, till the change be completed. In other words, all changes, however small, must be effected *in time*. We see this in innumerable operations of nature, such as the *planetary movements*; the phenomena of *accelerated velocity* in falling bodies; the *motion of light*, shown by the eclipses of Jupiter's satellites; in the progress of *disease*, in which there is a change of the structure of the parts. The late Professor Playfair remarks on this subject, "to know the relation between the time and the change effected, would be to have a perfect knowledge of the latent process;" the meaning, of course, is, if we could know all the *minutest* changes: for we may know, by experience, how much *time* it may take to effect a *given* change on matter, without knowing what *intermediate* changes may have led to the given one. In explanation of Bacon's doctrine, Mr. Playfair adds, "in the

firing of a cannon, for example, the succession of events during the short interval between the application of the match, and the explosion of the ball, constitute a latent process of a very remarkable and complicated nature, which, however, we can now trace with some degree of accuracy. In mechanical operations we can often follow this process more completely. When motion is communicated from any body to another, it is distributed through all the parts of that other, by a law quite beyond the reach of sense to perceive directly, but yet subject to investigation, and determined by a principle which, though late in being discovered, is now perfectly recognised. The applications of this mechanical principle are perhaps the instances in which a latent, and indeed a very recondite process has been most completely analysed." The allusion here is to the laws which regulate *percussion*, *collision*, and the *communication of motion* in bodies.

What Bacon terms the *latent schematism*, or structure of bodies, is that unseen shape and arrangement of their parts on which, it is obvious, so many of their properties must depend. The internal structure of plants, and the constitution of crystals, are instances; an inquiry into these is an inquiry into what is here quaintly termed the *latent schematism*; as also such an inquiry into *electricity*, *gravitation*, *magnetism*, etc., as would be directed towards the attempt to explain these facts, by any peculiar structure of bodies, or any arrangement of the particles of matter. "The inquiry," says Bacon, "and discovery of the concealed structure in bodies, is as much a new thing as the discovery of the latent process, and form; for men have hitherto trodden only in the outer courts of nature; and are not prepared to enter within. But no one can superinduce a new nature on a given body; or successfully and appositely change it into another body; unless he has first a competent knowledge of the body to be altered or transformed."

It must be confessed that Lord Bacon, emerging as he did from the prejudices of those ages in which philosophers pretended to account for almost everything, seems not only to have anticipated, as we have already observed, a greater perfection in human knowledge than it will probably ever attain, but also to have somewhat mistaken the way in which knowledge is to be converted to practical purposes. He supposes that if the *form*, or cause, or law, of any quality were known, we should be able, by inducing that "form" on any body, to communicate to it the said quality. It is not obvious, however, that even this knowledge would necessarily conduce to more simple and advantageous methods, than those of which the arts now furnish so many specimens. We are quite ignorant, for instance, on what *colour* in bodies precisely depends—what peculiar construction of surface it is, which makes a body reflect one particular species of light rather than another; yet we know how to communicate this quality from one substance to another. Would a knowledge of that concealed structure, on which this reflection depends, enable us to impart it to bodies more easily than we are able to do by immersing them in a liquid of a given colour?

Lord Bacon proceeds to make some remarks upon several of those *changes* in bodies, which he seems to have considered it within human power possibly to produce. He partly draws his illustrations from the pursuits of the alchemists; and makes some suppositions savouring to

us a little of paradox, though we cannot but discern his great sagacity, and admire his persevering diligence, amidst all the disadvantages under which he laboured. "We shall examine," says he, "what kind of rule, direction, or leading, a man would principally wish for, in order to superinduce an assigned nature upon a given body; as if any one should desire to superinduce upon silver the yellow colour of gold; and to increase its specific gravity; or to superinduce malleability upon glass; or vegetation upon a body not of the vegetable kind."

"The rule for the transmutation of bodies is of two kinds. The *first* regards a body as a certain collection, or combination of *simple natures (properties)*. Thus, for example, in gold, there meet together yellowness; a determinate gravity; malleability to a certain degree; fixedness in the fire; a particular manner of flowing in the fire; a determinate way of solution, etc., which are the simple natures (properties) in gold. For he who understands forms (causes), and the manner of superinducing this yellowness, gravity, ductility, fixedness, faculty of fusion, solution, etc., with their particular degrees, and proportions, will consider how to join them together in some body, so that a transmutation into gold shall follow."

"But the *second* kind of rule, which depends upon discovering the *latent process*, proceeds by *concrete bodies*, such as they are found in the ordinary course of nature: for example,—when inquiry is made from what origin, by what means, and in what procedure, gold, or any other metal, or stone, is generated from its first fluid matter, or rudiments, up to a perfect mineral. Or, again, by what process plants are generated, from the first concretions of their juices in the earth, or from the seed to a formed plant; together with the whole succession of motion, and the various and continued endeavours of nature. And this inquiry does not only regard the generation of bodies, but likewise other motions and works of nature: for example,—when inquiry is made into the whole series and continued actions of nutrition, from the first receiving of the aliment to a perfect assimilation; or, after the same manner, into the voluntary motions of animals, from the first impression of the imagination, and the continued efforts of the spirit, down to the bending and moving of the limbs; or again, in explaining the motion of the tongue, lips, and other organs, up to the formation of articulate sounds. For these things, also, have regard to concrete natures, or natures associate and organical.—And where mankind has no power of operating, but only of contemplating, yet the inquiry of the fact, or truth of the thing, belongs, no less than the knowledge of causes and relations, to the primary and universal axioms of simple natures: suppose, for example, the inquiry about the nature of spontaneous rotation, attraction, and many other natures; which are more common and familiar to us than the celestial bodies themselves. And let no one expect to determine the question whether the diurnal motion belongs to the heavens, or to the earth, unless he first understand the nature of spontaneous rotation."

The above passages, while they furnish an example of that acuteness and comprehension which so eminently distinguished their author, are not free from indications of his propensity to expect too much from human ingenuity, and to place the evidence of truth, in some respects, too high. His remark, for instance, with regard to the

"nature of *spontaneous rotation*," whatever idea he attached to it, as belonging to the celestial motions, may account, in some measure, for his prejudice against the doctrine of *Copernicus*, which attributed the diurnal motion to the earth, and not to the heavens; and which had been published to the world many years before Bacon flourished. Indeed, a proneness to form boundless expectations as to what human power might effect; and, in the very infancy of practical science, to look for achievements higher than we can, even in its more advanced age, venture to hope for, is one of the most remarkable features in the elevated and daring genius of this great man.

Further, to explain his views with regard to the inquiry into the *latent structure* of bodies, he points out what he conceives to be some of the proper objects on which this minute investigation may be instituted, as iron and stone; the root, leaves, and flowers of plants; the flesh, blood, and bones of animals. *Distillation*, and other methods of separation, are instances, as collecting together the different homogeneous or similar particles of the same body. He here, however, acutely cautions the chemists of his day against supposing that all the natures (qualities) which may be exhibited in the separation of the parts of any substance, must have existed in the compound; new natures (properties) being often superinduced by heat, or some other method of resolving bodies; "for this structure," he observes, "is a thing of great delicacy and subtilty, and may be rather confounded, than discovered and brought to light, by the operations of fire." He adds, in his usual serious and imaginative style: "Bodies, therefore, are to be separated, not (merely) by fire, but by reason, and genuine induction; with the assistance of experiments; for we must go over from Vulcan to Minerva, if we would bring to light the real textures and structures of bodies."

On the sanguine expectations and lofty aims which Lord Bacon indulged, with regard to what human industry and perseverance might effect, he proposes to found what he terms the "just division of philosophy, and the sciences," into *metaphysics* and *physics*. "The inquiry of *forms*," he says, "which, from the reason of the thing itself, and their own law, are eternal and immutable, may make *metaphysics*; and the inquiry into the efficient cause, the matter, the *latent process*, and the *latent structure*, may constitute *physics*, since these several (latter) particulars regard the ordinary course, and not the fundamental and eternal laws of nature." Certain it is, that however just such a general division of all human knowledge might be in Bacon's sense of it, could we realise his ideas and aims as to the *discovery of forms*, no progress has, as yet, been made towards the hopeful attainment of such a system of metaphysics; and probably the more secret operations of nature may for ever remain so shrouded from human penetration, as to render it impossible to say, in any one instance, that we have reached the goal, ascertained the very *first* in the series of second causes, and drawn the exact line between the subordinate operations of matter, and the immediate agency of the Infinite Spirit.—The following passages, on the "*raising of axioms, or principles from experience*," are introductory to the tables in which Bacon has exemplified his own method of induction, in an inquiry into the "*form*" of *heat*; or, in what *heat* consists.

"The raising of axioms from experience is divided into three kinds of administrations or helps; 1. for the sense; 2. for the memory; and 3. for the reason."

(1.) "Therefore, a just and adequate natural and experimental history is to be procured, as the foundation of the whole thing; for we are not to fancy or imagine, but to discover what are the works and laws of nature."

(2.) "Such history must be digested and ranged in proper order; therefore tables and subservient chains of instances are to be formed in such manner, that the understanding may commodiously work upon them."

(3.) "And though this were done, yet the understanding, left to itself, and its own spontaneous motion, is unequal to the work, and unfit to take upon it the raising of axioms, unless it be first regulated, strengthened, and guarded; therefore, in the third place, genuine and real induction must be used as the key of interpretation."

"The inquiry of *forms* proceeds in this manner. First, all the known instances, agreeing in the same nature, though in the most dissimilar subjects, are to be brought together, and placed before the understanding. And this collection is to be made historically, without any overhasty indulgence of speculation, or any great subtilty for the present. We will illustrate the thing by an example in the inquiry into the *form* of heat."

Section II. *Of the Tables given in Illustration of the Inductive Method.*

The materials from which Lord Bacon designed that *tables* of this kind should be composed, for the future advancement of science, were such as he himself has sketched out in his book entitled, after the quaint fashion of the time, *Sylva Sylvarum*, or "A Natural History; in Ten Centuries;" each of the ten sections into which it is divided containing one hundred facts and experiments, relating to a great variety of subjects; the term *natural history* being here used in a very extensive sense, to signify a record of observations on nature in general.

Such a history of facts as that from which tables should be drawn, was to contain an account of the subject under examination, in all the varieties and modifications of which the appearances belonging to it were susceptible. Not only were these facts in nature to be included in it, which offer themselves at once, and of their own accord, to the senses, but also all those experiments which might be instituted for the discovery of new facts relating to the same inquiry. These facts and experiments were to be ascertained with the greatest care; faithfully and simply stated, without mixing up any theory with the narration of them; and distinctly arranged. If any thing rested on doubtful evidence, this was not to be altogether excluded from the history of the subject, but to be noted down as uncertain, together with the reasons for so regarding it; and it was not to be employed as evidence in the discovery of *forms*, or ultimate causes, till rendered more probable by other facts, on which there rested nothing doubtful. In short, this *history* of nature was to be, as much as possible, a copy of nature herself, both as regarded obvious facts, and actual experiments; for, in experiments, as Bacon observes, "man does nothing more than bring things nearer to one another, or carry them farther off; the rest is performed

by nature." This remark has its exemplification in such operations as the firing of a pistol, the discharge of an electrical jar, and in all the experiments of chemistry, in which the art of man does no more than commence the process by applying the spark to the gunpowder, or by causing the connection between the inside and outside of the jar to be produced, or the electric circle to be completed; or by bringing the chemical agents into contact with each other; the rest is done by nature herself.

It must be acknowledged that a single glance into the *Sylva Sylvarum* will convince the reader that it is far from answering to the standard which its great author sets up for regulating the collection of the materials of scientific inquiry. In his "Experiment Solitary touching the commixture of flame and air, and the great force thereof," he says, "As for living creatures, it is certain their *vital spirits* are a substance compounded of an airy and flamy matter. It is no marvel that a small quantity of spirits in the cells of the brain, and canals of the sinews, should be able to move the whole body, which is of so great mass; such is the force of these two natures, air and flame, when they incorporate." It is unnecessary to adduce other specimens, many of which are to be found, as fanciful in matter, as vague in statement, and as gratuitous in evidence; in a word, exhibiting as complete a departure from the severity of the inductive method. Yet, amidst this indigested mass of facts and fancies, it is impossible not to discern the unwearied diligence, the acuteness, the boundless curiosity, and insatiable appetite for knowledge, which Bacon possessed. It is interesting to see the energies of such a mind grappling with the difficulties which inevitably surrounded it; eager for liberty, beneath the shackles that cramped its exertions; panting for the pure air of truth, amidst those oppressive mists of error which beset it on all sides; and more readily taking up with error, from its very impatience for truth. Bacon's faults as a practical natural philosopher, the occasional credulity and love of theory which he manifests, are only the more remarkable from his having so admirably descanted on those very errors by way of speculation. To free himself from the actual dominion of error in natural science, even though he had such lofty general conceptions of truth, was perhaps impossible in his situation. The morning star of nature is, in the language of Milton, "last in the train of night," though it belongs "better to the dawn;" and the sun himself cannot shake off the mists that attend his rising—time is needed to dispel them: Bacon was the first grand luminary of science, and it was no wonder that a portion of the darkness of the middle ages should still cling around him.

Nor was he himself unaware of the imperfection of those crude and recent materials from which, for want of collections of facts sufficiently accurate and long-established, he was obliged to deduce his tables. Perhaps, what he chiefly intended was a rough sketch of the history of nature, leaving it to posterity to follow out his plan with greater accuracy, and with all the advantages of time. This appears, indeed, from the caution which he gives his readers, quoted in our former Treatise on this work, not to reject his method itself, because some experiments and facts may not be so well verified as might be wished; or others even absolutely false. The same may be gathered from the

following remarkable passage in the Preface to the *Sylva Sylvarum*; by Dr. Rawley, who was Lord Bacon's chaplain. "I have heard his Lordship often say, that if he should have served the glory of his own name, he had been better not to have published this Natural History; but that he resolved to prefer the good of man, and that which might best secure it, before any thing that might have relation to himself. And, in this behalf, I have heard his Lordship speak complainingly, that his Lordship, who thinketh he serveth to be an architect in this building, should be forced to be a workman and a labourer, and to dig the clay and burn the brick; and to gather the straw and stubble over all the fields to burn the bricks withal. For he knoweth that except he do it, nothing will be done; men are so set to despise the means of their own good."

Lord Bacon formally *exemplifies* his method of induction in this part of the *Novum Organon*, on the subject of *heat*—his object being to inquire, what is its *form* or *nature*? In order to institute this inquiry, he arranges the facts and experiments he was acquainted with relating to it, in *five different tables*. These tables, while they partake of all the imperfections found in the *Sylva Sylvarum*, can scarcely be denied the praise, as Professor Playfair remarks, of being "extremely judicious," while the whole disquisition, as the same excellent judge observes, "is highly interesting."

Tab. I.—The *first* table contains instances in which heat is found and is termed, by the author, the "*Affirmative Table*;" or "*Instances that agree in possessing the nature of heat*;" and here are enumerated the sun's rays, direct and reflected; fiery meteors; lightning; flame; ignited matter; hot springs, and heated fluids in general; sultry seasons; subterraneous air; the coverings of animals; all bodies exposed to the action of fire; sparks struck out by collision; matter in a state of friction, as the wheels of carriages; green and moist plants when pressed together, as hay; slaked lime; iron in a state of effervescence with acids; the bodies of animals; herbs that are hot to the taste, as cresses: vinegar also is added, as applied to the flesh; and even intense cold producing a burning sensation.

Tab. II.—The *second table* which Bacon proposes in pursuit of his method, is *negative*; containing a list of *things in which heat is not found*: but, for the sake of brevity, the examples here introduced are to be only of those things which have a *near relation and resemblance* to the things mentioned in the first table, *heat alone excepted*, in which they are, to all sense, wanting. Thus, the first example of the "*instances agreeing in possessing heat*," were the *sun's rays*; and the parallel *negative* instance, or the first mentioned in the *second table*, are the *rays of the moon*, of *stars*, and of *comets*, since these are all luminous, though less so than the rays of the sun, but are *without heat*. In like manner, every instance in which heat *exists* in the things enumerated in the *first table*, is to have one or more parallel instances in the *second*, in which heat is *wanting*; though the substances in both the tables seem nearly related to each other.

Tab. III.—The *third table* consists of a *comparison of the degrees of heat* found in different substances. The things first to be considered are such as discover no heat whatever to the touch, but seem only to have, says Bacon, "a certain *potential heat*, or a *disposition and prepara-*

tion towards actual heat." Quicklime, green plants, acrid vegetables, etc., are mentioned as examples. The first degree of heat sensible to the touch, he considers to be that of *animals*; and inquiry is to be made respecting the comparative heat of the different kinds of animals, and of different parts of the same animals; and the causes by which animal heat is increased. The degrees of heat in various kinds of *flame* are also to be observed; as in the flame of alcohol; of porous vegetables; of wood; of unctuous substances, as oil and tallow; of pitch and resin; of sulphur; of gunpowder; of imperfect metals, as regulus of antimony; and of lightning. Also the degrees of heat in *ignited* bodies, as in tinder, coal, and metals. The thermometer (*vitrum calendare*), which was just come into use when Bacon wrote, is mentioned as showing the extreme aptitude of the common air to receive and communicate heat; being affected by the slightest change of temperature. Next to the air, those bodies were imagined to be most sensible of heat which had been newly changed and condensed by cold, as snow and ice; then is mentioned conjecturally quicksilver; next unctuous bodies, as oil and butter; afterwards wood; water; and lastly, stones and metals, as not heating so easily, though they retain their heat a long time.

This table, while it discovers, like the rest, the exhaustive genius peculiar to its author, and the enlarged general views which he took of the subject of inquiry, possesses the same defects as it regards accuracy in the facts; and occasionally the same insensible tendency to theorize. It appears singular enough, for instance, to us, who know the property which oxygen has of sustaining combustion, that the increase of heat should be accounted for mechanically thus: "Motion increases heat, as appears by bellows and blow-pipes;" and that after a description of the thermometer, and the sensibility of the air in respect of heat and cold, it should be added, "but we conceive that the spirit of animals has a still more exquisite sense of heat and cold, unless it be obstructed and blunted by the grosser matter of their bodies." Yet it is here remarked—"How unprovided we are in natural and experimental history, may be easily observed from hence; that in the preceding tables we are frequently obliged to direct experiments and further inquiry into particulars; and that, instead of approved history, and such instances as may be depended upon, we are sometimes driven to insert *traditions*, and *stories*, though we do this with a manifest doubting of their truth and authority."

These *three tables*, containing a great number of such *positive*, *negative*, and *comparative* examples on the subject of heat as we have quoted, are designed, Lord Bacon says, to "present a view of instances to the understanding." And when this view is procured, the business of *induction* is to be put in practice. "For, upon a particular and general view of all the instances, some quality or property is to be discovered, on which the *nature* of the thing in question depends, and which may continually be present or absent, and always increase and decrease with that nature; and limit the more common nature. God, the giver and Creator of *forms*, doubtless knows them by immediate affirmation, and at the first glance; and so, perhaps, may angelic intelligences; but this is certainly beyond the power of man, to whom it is given to proceed, first, by *negatives* only, and after a perfect exclu-

sion by *affirmatives*. We must therefore make resolution and separation of nature, not by fire, but by the mind, which is, as it were, the divine fire. And thus the *first* work of genuine induction in the *discovery of forms*, is to throw out, or exclude, such particular *natures* as are not found in any instance where the given nature is present ; or such as are found in any instance where that nature is absent ; and again, such as are found to increase in any instance when the given nature decreases ; or to decrease when that nature increases. And then, after this rejection and exclusion is duly made, the affirmative, solid, true, and well-defined form will remain as the result of the operation, whilst the volatile opinions go off, as it were, in fume. And if any one shall think that our forms have somewhat abstracted in them, because they appear to mix, and join together things that are heterogeneous, as the heat of the celestial bodies, and the heat of fire ; the fixed redness of a rose, and the apparent redness of the rainbow, or the opal ; death by drowning, and death by burning, stabbing, the apoplexy, consumption, etc., which, though very dissimilar, we make to agree in the nature of heat, redness, death, etc., he must remember that his own understanding is held and detained by custom, things in the gross, and opinions. For it is certain that the things above-mentioned, however heterogeneous and foreign they may seem, agree in the *form* or *law* that ordains heat, redness, and death."

The first step, therefore, according to Bacon, in an inquiry into the *form* or *cause* of any thing by induction, is to consider what things are to be excluded from the number of *possible* forms or causes. This exclusion contracts the field of inquiry, and brings the true explanation of the case more within reach. Thus, suppose the subject in question be, to use the language of our author, the *form of transparency* ; or in other words, the quality which is the *cause* of transparency in bodies : now since the *diamond* is transparent, we immediately exclude *fluidity*, and *porosity*, or *rarity* ; because the diamond is a very solid and dense substance : that is, a body may be transparent, without being either fluid or light, compared with other bodies ; neither fluidity nor lightness, then, are the form or cause of transparency.

Tab. IV.—Bacon's *fourth table*, accordingly, proposes to exhibit "an example of this exclusion, or rejection of natures from the form of heat ; that is, a rejection of those things as the *causes* of heat, in which it evidently cannot consist. Thus, as both the sun's rays and common fire are hot, he excludes both "terrestrial and celestial nature." *Light* and *splendour* are also rejected as essential to heat, because water, air, and solid bodies will receive or conduct heat without being ignited ; and, on the contrary, the rays of the moon and stars present light without any sensible heat ; also because ignited iron is less lucid, but hotter than the flame of alcohol. Again, *tenuity*, or a certain lightness of substance, is to be excluded as the cause of heat, because gold, which is very dense, can be ignited ; while the air, which is generally cool, is thin and subtile. *Expansive motion* is also to be rejected, Bacon says, "because ignited iron enlarges not in bulk, but remains of the same dimension ;" this, however, is contrary to a well-known fact in the economy of heat.—As bodies are warmed without *destruction of the parts*, this destruction is to be excluded. Other things also are to be rejected, "for our tables," says the author, "are not designed as perfect, but only as examples."

Hence, it is added, at the end of this table, "The business of exclusion lays the foundation for a genuine induction, which, however, is not perfected till it terminates in the affirmative; but an exclusion is by no means perfect at first, nor can it possibly be so; for exclusion, as we plainly see, is the rejection of *simple natures*; and if we have hitherto no just and true notion of simple nature, how can the business of exclusion be rectified? But some of the above-mentioned notions, as those of *elementary* (or *terrestrial*) nature, *celestial* nature, and *tenuity*, are vague and ill-defined. Wherefore we must proceed to greater helps for the mind. And yet we judge it useful to allow the understanding to apply itself and attempt the business of interpreting nature in the affirmative, on the strength of the instances contained in these tables, and such as may be otherwise procured. And this kind of attempt we call a *permission of the understanding*, the rudiments of interpretation, or the first vintage of inquiry."

Tab. V.—The next, which is the *fifth table* and the last, is accordingly quaintly entitled, "*The first Vintage concerning the Form of Heat*;" that is, a rough and general specimen of a conclusion derived from the foregoing investigation. Bacon concludes, here, that from an examination of all the instances, "separately and collectively, *the nature whose limitation is heat, appears to be motion*," which he attempts to prove from the view he took of the facts. He adds, "what we have thus said of motion is to be understood of it as of a *genus*, with regard to heat, and not as if heat generated motion, or motion generated heat, though this may be true in some cases; but the meaning is, that *heat itself*, or the very existence of heat, *is motion*, and nothing else, though motion limited by differences, which we shall presently subjoin."

He next points out these "*differences*," as he terms them; that is, he endeavours to discover what *kind* of motion this is of which he speaks. He *first* argues that it is *expansive*, whereby a body dilates itself; which, however, is hardly consistent with his observation on ignited iron in the fourth table. The *second* "difference," or quality of the motion is, that heat is an expansive motion toward the circumference, and which at the same time rises upwards. "The *third* difference," he says, "is that this motion is expansive in the lesser particles of a body;" and "the *fourth* difference is, that the motion in which heat consists is rapid." All this he attempts to prove, and concludes thus: "Let this serve for what we call the first vintage, or an attempt towards interpreting the form of heat, which the understanding makes, as we said, by way of permission. The fruit of this first vintage is in short: Heat is an expansive, bridled motion, struggling in the small particles of bodies. But this expansion is modified; so that, while it spreads in circumference, it has a greater tendency upwards. It is also vigorous and active. And as to practice, if, in any natural body, a motion can be excited which shall dilate or expand, and again recoil or turn back upon itself, so as that the dilatation shall not proceed equally, but partly prevail, and partly be checked, any man may doubtless produce heat. And this may serve as an example of our method of investigating Forms."

Notwithstanding the imperfection of these tables as to their detail, the want of accuracy in the experiments, the crudeness, and the apparently gratuitous style of Bacon's conclusions, amidst the laboured appear-

ance of the whole, it is worthy of remark that his hypothesis on the nature of heat is the very same as one of those which still, at the distance of nearly two centuries, divide the opinions of philosophers. The more direct and elegant manner in which the moderns have employed his inductive method, has not, in the very instance which he first chose as an example of it, enabled them to go one single step beyond him. It is still a question, whether heat be really *matter*—a subtile fluid capable of diffusing itself in bodies; or any thing more than a *motion*, vibration, or rotation, excited among their particles. All the experiments that have been made up to the present time, have not availed to set the question at rest; and the greater part of the facts relating to heat may be explained equally well on either of the two suppositions.

SECTION III.—*Of the Doctrine of Instances, or Facts, as regards the Discovery of Forms.*

It is obvious that *all* facts, however well authenticated they may be, are not of equal importance in the discoveries of science. Some facts are so like others, that it may be quite unnecessary to notice them. Some exhibit the subject of inquiry in its most simple state; others present it with a combination of circumstances. In some cases the thing sought appears in its highest degree; in others in its lowest. In medicine, for instance, a disease sometimes presents itself in its purest form, and most regular progress; at other times it is involved in a variety of other symptoms that do not belong to it. Hence Lord Bacon proposes to consider what he calls *Prerogativa Instantiarum*, *Prerogative Instances*; or the *comparative value of facts* as means of discovery, or instruments of finding truth.

The design here is to show what are the *most important* and essential *particulars* in every inquiry; or what instances in the operations of nature are chiefly to be sought for, and attended to, in order to discover the laws of nature in general, to whatever extent man may be able to ascertain them. The conclusion on the subject of heat being only to be regarded as an *example*, and not as a perfectly established truth, Bacon retraces, in a manner, his own steps, and proceeds to treat, generally, and more accurately, of the way of procuring a proper collection of such facts, experiments, and observations, as are best fitted to constitute *affirmative*, *negative*, and *comparative* tables, like those we have described; and this in order, ultimately, to shorten the inquiry, and to render it more rigid.

We shall now give our readers an outline of these "*Prerogative Instances*;" or those cases which have a chief claim to be noticed in the attempt to interpret the laws of nature; retaining the terms which Bacon figuratively applies to them. He divides them into three classes, which he denominates those which address themselves to the *understanding*; those which assist the *senses*; and those which conduce to *practice*.

I. *Instances addressing themselves to the Understanding.*

1. The first are the *Instantiæ Solitariae*; *solitary instances*. These are divided into *two* classes.—The *first* are those examples in which the *same* "nature," or quality, exists in different bodies, which have

nothing in common but that quality; that is, the bodies differ in all things but in this one. The conclusions that can be entertained in this case, respecting the *form* or cause of this quality, are limited, inasmuch as they involve none of the things in which the bodies differ, but only that in which they all agree. Crystals, prisms of glass, and dew-drops, are *instantiæ solitariæ*, because they exhibit colour, in some situations, while they have nothing in common with stones, metals, wood, flowers, etc., whose colours are fixed, excepting the colour itself. Hence Bacon infers that colour is, in the first substances, that is, in crystals, etc., simply a modification of the rays of light, produced by the different degrees of *incidence*, or the angles which light makes in falling on them; and in the latter case, as in stones and metals, he concludes that colour depends on the texture and structure of the surface. It was by these examples that Newton afterwards discovered the composition of light.

The *second* class of *solitary instances* are the reverse of the former. They are those cases in which the "nature" or quality, which is the subject of inquiry, *differs* in two bodies which are in all other respects the same; that is, the bodies here agree in all things but this one. The *form* or cause here, therefore, cannot exist in any of the general things in which the bodies agree. The veins of black, and of white, in marble, and the variety of colours in flowers, are adduced as examples; where the substances agree, almost in everything but in colour. Bacon here again concludes that permanent colours depend chiefly on the texture of the surfaces of bodies, and very little on their internal and essential properties.

2. *Instantiæ Migrantes*, or *travelling instances*, are those in which one quantity is lost, and another is produced; or, in which the nature or quality inquired into exhibits changes and degrees, passing from less to greater, or from greater to less; in the one case approaching its *maximum*, or greatest state, in the other tending to extinction altogether. Let the inquiry be into the cause of *whiteness*, in bodies that are of this colour. *Glass* and *water* are mentioned as examples. Glass, when whole, is without colour; but, when powdered, becomes *white*: so water in its natural state is colourless, but is white when in the state of *foam*. Both these substances pass from a state of transparency to an opaque state. "It is manifest," says Bacon, "that the form (cause) of whiteness travels or is conveyed over by pounding the glass, and agitating the water; nothing, however, is here found but a bare comminution of the parts, together with the interposition of the air; and whiteness is exhibited by a different refraction of the rays of light." Metals becoming *fluid* by heat, and again *solid* by its abstraction, might be added as another example. Also the *shells* which are often found perfect in limestone, and by degrees become lost in the finer marbles, till they are no longer discerned. The mineral kingdom presents *this* kind of instances in the greatest abundance, and such facts are, perhaps, nowhere of greater importance in practice. The barometer also furnishes an instance of this *progressive* kind; for on going to the top of a mountain the mercury sinks, which it ought to do, if it be the weight of the atmosphere that supports it, because the column of the atmosphere is now shorter.

3. Next come the *Instantiæ Ostensivæ*, *glaring instances*; which our

author also terms *eluscentiæ*, and *predominantes*, or instances which shew the nature or quality in its highest power and degree, and freed from the obstructions which usually counteract it. The nature which is the subject of inquiry is here, as is represented, fully displayed, either by the absence of such obstructions to it, or by its prevailing over them by its own energy. The *thermometer* is judiciously chosen as an example; this instrument very obviously shewing the expansive force of heat in its operation on air. Perhaps, Lord Bacon is not so happy in adducing *quicksilver*, on account of its fluidity, as a *glaring* instance leading towards the discovery of what *gravity* is; for gold, which is heavier than quicksilver, becomes fluid also by the application of heat; and quicksilver is solid at a certain temperature.

Professor Playfair adduces as an example of this class, the shells, corals, and other marine exuviae, or their impressions, found imbedded in solid rocks, and on high mountains, as decisively proving the original formation of such land under the sea.

4. The *Instantiæ Clandestiæ*, or *obscure* instances, may be considered as opposed to the last. Bacon has also fancifully called them *Instantiæ Crepusculi*, *twilight* instances. These are the cases in which some quality or power is just beginning to manifest itself, and is in its weakest and most imperfect state. These he regards as peculiarly important in attempts at generalisation. He mentions an example with reference to the nature of *solidity*, exhibited in a low degree in a fluid, when water, blown into a bubble, assumes a kind of consistent skin, and may be thrown in this form to a considerable distance; and he infers, from such cases, that fluidity and solidity are only relative ideas, and that bodies have what he terms "a real appetite to avoid discontinuation." Water suspended in *capillary*, or very small tubes, is another illustration. This effect may be viewed when at its *minimum*, or in the least degree, that is, when the tube is increased in its bore. The column of water now becomes a slender ring, going all round the vessel. As this ring must be formed by the attraction of the sides, and of the part directly above the water, there can be no doubt that the capillary suspension arises, in part at least, from the same cause.

5. In the fifth place, are noticed the *Instantiæ Manipulares*, or *collective* instances; that is, general facts, comprehending a number of particular cases; tending to carry us to a certain extent in the discovery of *causes*, and assisting in the attempt towards a further generalisation.

The *laws of Kepler*, not mentioned by Bacon, though discovered before he wrote, are a case in point. These laws, which aided Newton in detecting the principle of *gravitation*, are three general truths or facts in astronomy; each of which holds with regard to every planet. These laws are, that the planets all move in oval orbits round the sun, placed in the common focus; that a line, supposed to be drawn from this focus, or point in the ellipse, to any planet, passes over equal spaces in equal times; and that the squares of the times of revolution round the sun are always as the cubes of the mean distances from him. Each of these laws was discovered, after vast labour and research, and by comparing together an immense number of observations. In such collective instances astronomy is fertile. A planet is seen in the heavens; by long and diligent attention, it is

found to move in a certain direction, with a certain velocity, and to perform its revolution in a certain time. Hence the periodic time, or the year of every planet is a collective fact,—a fact resulting from numerous observations.

Bacon's example of this kind of instances is taken from *memory*, the nature of which is supposed to be the subject of inquiry. Collective instances, tending to conduct us some way in the investigation, are, he says, such facts as these; namely, that *order*, *artificial associations* of ideas, and *verse*, aid the memory; also whatever appeals to the *senses*, or the *passions*, so as strongly to excite them; again whatever is presented to a mind that is *free* and unoccupied, as is the case with children; what is noticed for the *first* time; and what we make an *effort* to retain—these things are usually best remembered. This instance may serve to show the comprehensiveness of Bacon's design, which was to prescribe rules for all kinds of investigations, whether relating more strictly to natural philosophy, or, as here, to intellectual science; indeed, it was in his ideas relative to the conduct of the understanding in its pursuit of truth that he chiefly excelled.

6. *Instantiæ Conformes*, or instances that are *parallel*, or analogous, are facts which resemble each other in some particulars, while in all the rest they are very different. Optical instruments and the eye; the structure of the ear, and of caverns that yield an echo, are mentioned as examples. Also the fins of fish; the feet of quadrupeds; and the wings of birds.

It was the obvious analogy between the eye and the telescope, that led to the formation of *achromatic*, or colourless glasses: the means of which invention were pointed out by observing the different refractive powers of the *humours* or lenses of the eye, which prevent the field of view from being coloured round its edges; this was successfully imitated in the telescope. On the other hand, *art* has, by a similar instance of conformity, been able to point out what takes place in nature: the experiment of the *camera obscura* led to the discovery of the image on the *retina* of the eye, by suggesting the probability of it.—Sir James Hall's experiments may be added; showing that the presence of calcareous spar, in *trap* rocks, and its absence in *lava*, may arise from the degree of compression under which the fusion of the former took place. Basalt and other trap rocks have a structure so exactly similar to the lava of volcanoes, that it could scarcely be doubted that their origin was equally derived from the agency of fire; hence the successful inquiry into the cause of the difference.—The valves in the blood-vessels of the human body resembled those used in hydraulic machines for preventing the return of the water; hence Harvey took the hint which led him to the discovery of the circulation of the blood.

7. Next are mentioned what are termed *Instantiæ Monodicæ*, *singular*, or irregular facts; such as are “out of course;” or are remarkably distinguished from all other instances of the class to which they belong. Examples are, the sun and moon among heavenly bodies; the magnet among stones; mercury among metals; the elephant among quadrupeds. To these of Lord Bacon may be added such instances as the newly-discovered planets, which do not move in the zodiac, and are of a much smaller size than the others; also Saturn's

ring, which is the only case we know of the kind.—Those stones called *ærolites* also, which have sometimes fallen from the heavens, may be noted as presenting a singular class of well-authenticated facts, not yet satisfactorily explained.

8. Almost the same with the last, but mentioned as distinct by Bacon, are the *Instantiæ Deviantes*, or *deviating* instances; “that is,” he remarks, “errors of nature; things monstrous and uncommon, where nature turns aside from her ordinary course. These errors of nature differ from the *singular* instances, which are miracles in species; while these errors are miracles in individuals. And here the *latent process* that leads to the deviation is to be inquired into.”

Examples of these are, he adds, “all prodigious and monstrous births, and productions of nature; and of all things new, extraordinary, or uncommon in the universe. And here such things are to be suspected as the prodigies of Livy; and those no less which are found in the writers on natural magic, alchemy, etc., who are the professed admirers and lovers of the fabulous.”

9. *Instantiæ Limitanæ*, or *limiting* instances, are also very near akin to the *singular*. They are those which exhibit, as it were, a combination of *two* different kinds in the same individual: the bat and the flying fish are examples; also the mole; and all combinations of different species; among these none are more remarkable than the strange quadrupeds lately discovered in New Holland, partaking of the structure both of birds and beasts, and called, by naturalists, the *Ornithorhynchus Histrix* and *Paradoxus*.

10. The next place is assigned to what are called the *Instantiæ Potestatis*, instances of *power*; by which are meant the most remarkable productions of human ingenuity; or, as they are described, “the most noble and perfect works, and such as may be called the masterpieces in every art.” Here are introduced the destructive inventions of gunpowder and ordnance; the manufacture of silk; also that of paper, on which he comments with great admiration, as very singular in its texture among the productions of art. He notices also glass, porcelain, and enamel; and adds that contrivances of “dexterity, delusion, and diversion,” are not wholly to be rejected from the enumeration, nor even “things magical and superstitious; charms; the supposed sympathy of spirits,” etc.; because, under the falsehood of these things, the true operations of nature may oftentimes be concealed.

Of these instances, it would be endless to adduce the examples which might be furnished by the modern improvements in art and science; the *steam-engine* alone might suffice, as connected with a world of inventions, each of which would have appeared to our indefatigable author a “masterpiece of art;” witness only one of the applications of it, namely, to the working of vessels on water. But in the line with gunpowder, or rather in advantageous contrast to it, may well be placed the safety-lamp,—aptly termed by Professor Playfair, “the most valuable present that science ever made to art.”

11. *Instantiæ Comitatus, atque Hostiles*, or instances of *accompaniment* and *separation*, are those in which certain qualities, or properties, always accompany each other, and the reverse.

Of the first kind are *flame* and *heat*; that is, all flame possesses heat, while in air, stones, metals, heat is merely accidental, or may

come and go. So also, excepting a very few particular cases, *heat* and *expansion* are an instance of this class; heat being accompanied with an increase of the substance in which it resides. *Body* and *gravity* may also be adduced; for whatever is impenetrable and has *inertia*, that is, everything of which we can certainly say, it is *matter*, possesses also weight, more or less.

The *hostile* instances, or those of *separation*, are opposed to the former; that is, the quality which is the subject of inquiry is always absent from them. Thus, in the case of solidity: air, and elastic fluids in general, cannot, so far as we know, assume a solid form; they are never exhibited in this state, although the discoveries of Mr. Faraday have limited the number of permanently elastic fluids by condensing, through pressure, many which were before thought incondensable. So, in the case of *transparency*: this, in solid bodies, is not found joined with malleability.

12. *Instantiæ Subjunctivæ*, *subjunctive* instances, or those which may be subjoined to the last, as seeming nearest to approach the exceptions to them. "As for example," says Bacon, "the mildest and softest flames, or such as burn the least; and in the subject of *incorruptibility*, of which we have no affirmative upon this earth; yet gold comes nearest to an incorruptible body."

The other examples Bacon adduces seem rather to belong to the *Instantiæ Ostensivæ*, unless he means to point them out as showing the limits of nature in some of the *accompanying* instances: "of this kind," he says, "are gold, in weight; the whale in bulk of animal body; the hound in point of scent; the explosion of gunpowder, in sudden expansion."

13. The next instances are called *Instantiæ Fæderis*, or instances of *alliance*, or *union*; in which *natures*, properties, or qualities, supposed to be dissimilar and heterogeneous, are, on investigation, found to approach nearer to each other, if not to be the very same. These, it is observed, are of great use in leading us, from resting in differences, to *genera*, or general classes. Bacon adduces his favourite subject, *heat*. He says that, in his time, the heat of the *sun*, that of *animals*, and that of *fire*, were supposed to be perfectly different in their very *natures*. He rejects this supposition, and illustrates his meaning, with regard to these instances, thus:—"we have an instance of union in the case of *grapes* ripening sooner than the grapes of the same vine out of doors, if one of the branches be trained within side a room where a fire is kept; so that culinary fire will ripen grapes, which is supposed to be peculiar to the sun's heat." He also instances the reasoning faculty in man, and the sagacity of brutes, as in some cases so nearly approaching to the appearances of originating in one common nature, as to merit particular inquiry.

14. More important than the former, are the *Instantiæ Crucis*, *crucial* instances; so called, after Bacon's manner, from the crosses, or *way-posts* used to point out roads, because they determine at once between two or more possible conclusions.

"These instances," says the author, "are of such a kind, that, when in search of any *nature* (cause), the mind comes to an equilibrium, or is suspended between two or more causes, these facts decide the question, by rejecting all the causes but one." In these cases, each of the sup-

posed causes equally accounts for the appearances, and it is the part of the inquirer to contrive some experiment, or discover some fact, applicable to the given question, which can only be explained by *one* of these causes; by which all uncertainty vanishes, and the true cause becomes known. It is very common to speak, both in science and common arts, of *tests* and *experimenta crucis*. These are sometimes decisive both ways, and sometimes imperfect, or what may be called *unilateral*. Thus, if a flame burns in any gas submitted to experiment, we conclude generally that there is oxygen in the air; but if it does not burn, we cannot, therefore, conclude that there is none, for it may be in too close combination with some other gas to support flame. But a perfect test would be weighing any gas; for if it be heavier than common air, in the ratio of 1.435 to 1.2, it is oxygen; if lighter or heavier it is not. Thus, too, in discussing whether a given writing be innocent or libellous, that is, maliciously composed, or composed with any improper motive of any kind, the truth is a unilateral test; for if the allegations be false, there must be malice; but there may be malice also, though the matter stated be true. There would arise very great distinctness in argumentation, were we to adopt this convenient phrase of a complete and an incomplete or unilateral test—many of the errors in reasoning, especially upon moral subjects, arising from mistaking incomplete for complete tests.

In order to illustrate this division of instances, Bacon institutes an investigation into the causes of the *tides*; but the discussion is not founded on sufficient *data*; is confused by being involved with a question upon the Copernican doctrine of the rotatory motion of the earth; and the whole terminates unsatisfactorily. To determine the true theory of the tides was reserved for Newton himself; but he did it upon the genuine principles of the Baconian philosophy.

The question whether rotation belongs to the earth, or to the heavens, generally, is also introduced; and here Bacon evidently inclines to the old hypothesis, namely, that the heavens revolve round the earth which remains at rest; though he allows that, if any comet should be observed not to obey the apparent law of the celestial motions from east to west, this would be a *crucial* instance, showing that there can exist in nature a motion contrary to the visible, diurnal motion, as it appears to the sense. This question might have been determined by observing what is called, in the language of astronomy, the motion of the planets *in latitude*; that is, their deviations from the plane of the ecliptic, or the sun's apparent annual path among what are now called the fixed stars. These deviations present a set of appearances not to be reconciled with the Ptolemaic system, which makes the earth the centre of the planetary motions, but are easily explained on the theory of Copernicus, or that of the sun being at rest in the centre. This, therefore, would have been an instance of the class before us, against the Ptolemaic hypothesis, and strongly in favour of the Copernican doctrine, though some other appearances of the heavenly bodies might accord equally well with either of the two theories.—In his remarks on the subject of gravity Bacon is more happy. He proposes to solve the question whether or not bodies tend towards the earth in consequence of an attractive power belonging to it, by ascertaining whether they fall with less velocity at greater distances from it;

and this is to be done by observing whether or not the pendulum moves more slowly at great heights above the earth's surface. Both these queries have long been satisfactorily answered.

Chemistry is rich in these *Instantiæ* or *Experimenta Crucis*. The great object in experimental philosophy is, to institute some experiment which shall be similar to another in all respects but one, which, in order to be perfectly satisfactory, the method of induction generally requires. Hence, in those branches of science in which the objects of inquiry are less completely under our command, and less capable of being put to the test of varied experiments, it is difficult to distinguish the causes; and to assign to each its own proper effect. This is often the case in *intellectual* and *moral* inquiries, in *political economy*, and also in *medicine*. Chemistry, which is so completely a science of experiment, furnishes notable instances of the present class.

The celebrated *Lavoisier* performed an experiment of this kind, which exploded the doctrine of *phlogiston*, as held by former chemists. It is well known that when metals are calcined in the fire, the weight of the mass becomes greater after the process than before. The cause of this fact was a subject of inquiry. It was supposed, from some circumstances, unnecessary to be detailed, that in the calcination of a mass of tin, for instance, a certain substance is actually driven off by the fire. To this substance, the name of *phlogiston* was given; and as the metal was heavier after its escape than before, it was supposed itself to possess what they termed absolute levity.

Lavoisier instituted the following experiment: a quantity of tin was put into a glass retort, and hermetically sealed; the retort, with its contents, was then carefully weighed. The proper degree of heat was next applied, and the metal was calcined; and now the weight was found to be exactly the same as before the process: nothing therefore could have escaped through the glass. When the retort had cooled, it was opened, and the air rushed in, showing that a partial *vacuum* had been produced. The retort and its contents were now weighed a third time, and it had gained ten grains in weight: ten grains, therefore, of air had rushed into the retort on its being opened. The *calx* was then taken out, and was found to weigh exactly ten grains more than it did before calcination. The ten grains of air, therefore, which had disappeared, and had been replaced by the same weight of air, on the retort being opened, had combined with the metal during the process. This most satisfactory experiment led to the knowledge of oxygen gas, that species of air which combines with metals when they are calcined, and the doctrine of *phlogiston* was exploded.

15. Next in order are *Instantiæ Divortii*, instances of *separation*; "which indicate the separation of those natures which for the most part are found together. These differ from *instantiæ crucis*, as determining nothing, but only admonishing us of the separation of one nature from another." This seems a very general distinction, and not very applicable to practice. It is followed by some curious remarks by way of illustration. *Bacon* says that *agency* in general belongs to some substance; but doubts whether the attraction of a magnet does not furnish an example of this agency, or virtue, being neither in the magnet nor in the body attracted, but between them both. He supposes, therefore, that "natural agency, or power," may subsist for a time

without a substance; and this he would call an *instance of separation*. He makes the same remark with regard to the attraction of the earth.

It is obvious that there is here a confusion in the use of terms; and a want of simplicity in forming the notion of *cause* and *effect*. *Agency* is first spoken of as a quality belonging to some agent; and afterwards as a *real existence*, independent of an agent: this would be to introduce an additional agent; and to suppose, after all, that we know more of cause and effect than we actually know, which is, that one class of events uniformly goes before another class, which may be called their corresponding events; or that a certain *antecedent* always precedes a certain *consequent*. Bacon, however, singularly founds, on these supposed instances of separation, a fanciful argument for *immaterialism*, by way of corollary, which he introduces as of great importance; alleging that "if natural virtues and agencies may subsist without a body for some time in space," this may lead us to a conception of the existence of an incorporeal substance:—its existence, however, rests on better evidence, and strictly inductive, for we know the existence of matter only by its effects on our mind through our senses, and we know the existence of mind by our consciousness, or by the reflexion of the mind itself on its own operations. We have, therefore, the same kind of evidence, in a high degree, for the existence of mind as of body.

II. *Instances tending to assist the Senses.*

The above general name is given by Lord Bacon to the five orders of instances which follow. They are called, in his usual technical style, *Instantiæ Lampadis*, instances of the *lamp*, because they propose, chiefly, to correct or inform the senses; the accurate impressions and informations of which, it is evident, are of the utmost importance in philosophical inquiries.

16. Of these five, the *first* are the *Instantiæ Januæ*, instances of the *portal*, assisting the immediate *action* of the senses, and more particularly the *sight*. Of this kind are optical instruments in general, and speaking and hearing trumpets. Bacon mentions the *telescope* as the invention of Galileo, and as bringing into view the innumerable stars of the milky way, the satellites of Jupiter, the unequal surface of the moon, and the spots in the sun; but, as he had not the opportunity of verifying these discoveries for himself, the admiration he expresses for them is tempered with some doubt as to their reality. He also notices the *microscope*, and instruments for *measuring* distances, as examples.

17. The *second* of this class are the *Instantiæ Citantes*, *summoning* instances; so called because they cite things, as it were, to the bar of the senses, enabling us to perceive things which were before imperceptible.

Among the causes why things escape the senses, are enumerated, *distance* of place; the *interposition* of some other body; the *unfitness* of the object to impress the senses; the shortness of the *time* during which, in some cases, the object may act on the senses; and the object, as it were, sometimes *overpowering* the senses. Whatever remedies these causes are instances in point. Bacon notices the *pulse*, as bringing to light conditions of the human frame, not cognizable by other means. He also remarks that very *swift motion* requires to be well-measured, in order to compensate for its *escaping* the senses;

this is now done with regard to *sounds*; and by means of the eclipses of Jupiter's moons, and the aberration of the fixed stars, the velocity of *light* itself is measured.

Other examples may be adduced from modern science: as the *barometer*, and the *air-pump*, which show the weight and elasticity of air; and the experiments in pneumatics, in general, and in electricity and galvanism, have rendered certain the existence of things, which had before entirely escaped the senses, as the *gases*, or elastic fluids. To the same head may also be reduced the late wonderful discovery of a moving magnetic fluid, or an action circular and perpendicular to the electrical current, yet connected with it.

18. *Thirdly*, follow the *Instantiæ Viæ*, instances of the *road*. "These," says Bacon, "we also term *jointed* instances, as indicating the operations of nature gradually continued; and these rather escape the observation than the senses of men." There is a propensity in men, he remarks, to be contented with viewing nature only by "fits and starts," at intervals, and when her processes are finished, while they neglect to watch her gradual method of working. This is the result of indolence. Nature's operations, however, should be carefully observed, while processes are going on, as we stand by and see the operative manufacturer carry on his work. Examples of these instances are the *vegetation* of plants; the *hatching* of eggs, throughout all their stages; such processes as *putrefaction*; and in unorganized bodies, *distillation*. These instances are somewhat similar to the *instantiæ migrantes*.

19. The *fourth* are the *Instantiæ Supplementi*, instances of *substitution*, "or those to which we have recourse," says our author, "by way of refuge, when the proper instances cannot be had." He names the *magnet*, which attracts iron through various substances which may be interposed; and adds, "perhaps some medium may be found to deaden this virtue more than any other medium; such an instance of *substitution* would be in the way of degree, or *approximation*;" that is, it would approach toward destroying the magnetic virtue. Perhaps iron has this quality in a higher degree than any other substance.

20. The *fifth*, and the last enumerated, of this class, are the *Instantiæ Persecantes*, sive *Vellicantes*, *compulsory* instances; which are thus explained. "We call them so because they *twitch* the understanding (vellicant); and because they cut through nature (persecant). They are those facts which rouse the mind to a perception of the admirable and exquisite subtilty of nature; so as that it may be awakened and stimulated to due attention, observation, and research." Bacon means, in short, those facts, which force our attention to things which are apt, from their minuteness and subtilty, to escape our observation. His remarks on these instances show how alive he was to what is curious and admirable in the laws of nature; and exhibit the genuine spirit of a philosophic observer.

Some of his examples are the following: a *drop of ink* in a pen, which is capable of so great a number of divisions into letters, in writing; the amazing length to which a *wire* may be drawn; the exquisite structure of *animalculæ*; the tincture which a little *colour* gives to a quantity of water; the small quantity of *musk* that will perfume a room, without losing any of its weight; the great

volume of smoke which is extricated from some substances, as *incense*; the *notes in music*, which are so accurately conveyed through air, wood, and other mediums, and reflected so swiftly and yet so distinctly in *echoes*; *light* and *colour* passing so rapidly through masses of solid or fluid matter, as through glass, or water; and at the same time conveying to the eye a great and exquisite variety of images, though the light suffers refraction and reflection; the *loadstone* attracting iron through solid bodies. To these are added the multitude of natural *operations* that are going on in the universe at the same time, without interposing with each other; as, for instance, *visible objects* are seen through the air; numerous *percussions* and articulate *sounds* are acting on it; numerous *odours*, as of flowers, are passing through it; also *cold*, *heat*, and the *magnetic* attraction: all these actions are continually going on, and innumerable more without obstructing each other.

Our laborious author subjoins, what he calls *limiting* instances to this class. Thus, though one action or operation of nature does not disturb another of a *different* kind, yet this is not exactly the case with regard to actions of the *same* kind. The sound of a flute, and the smell of a rose, may both pass through the air, and make impressions on the senses at the same time; but the report of a cannon drowns the voice: the light of the glow-worm, if emitted in the sun-beams, is not visible; and a stronger odour overpowers a weaker.

III. *Instances leading to Practice.*

THIS division, to which Lord Bacon gives the general name of *Instantiæ Practicæ*, 'practical instances,' contains those which are of principal use in practice; or in the actual effort to raise the improvement of art on the foundation of science, and thus to reduce our knowledge to some valuable purposes.

The instances of principal use in practice he regards as of *two* kinds, applicable to the two ways in which he considers that knowledge may fail of leading to actual results. This failure may be occasioned by our knowledge not being sufficiently *accurate* and precise, though sound as far as it goes; and this is often the case in natural philosophy, from objects not being exactly measured and estimated. Or the practical result that is desired may fail, through the process or experiment not being sufficiently *simplified*, but, on the contrary, encumbered and confused with operations that do not necessarily belong to it. Hence the "practical instances" are divided into two classes, of which the *first* are the *Instantiæ Mensuræ*, instances of *admeasurement*; of which he makes four kinds; and in which some estimate of the qualities and actions of bodies is to be formed, in order to remedy the first of the two above-named sources of failure; namely, the *want of precision* in our knowledge; and to aid in converting knowledge into power.

(1.) *Instantiæ Mensuræ, Instances of Admeasurement.*

21. The *first* of these are the *Instantiæ Radii*, or instances of the *measuring-rod*; that is, cases in which things are to be measured in respect of their relation to *space*. "For," says Bacon, "the forces and motions of things operate within certain spaces that are not indefinite and casual, but determinate and finite; and the due observance

of these spaces in every subject of inquiry is of great importance to practice."

He remarks, for example, that many qualities and properties act only by *contact*. In the *percussion* of bodies, motion is communicated by the impelling body touching the impelled; in the senses of *taste* and *touch* also the effect is produced by contact; so in *external remedies* used in surgery. Some agencies act at *small distances*, as in the case of *amber*, and the *magnet*, which attract certain substances within a certain sphere. Other agencies operate at *great distances*, as *heat*, *odours*, *sounds*, and especially *light*, the effects of all which, on the senses, are perceived when the sources of them are remote from us. The attraction of the *moon* on the sea is added, which Bacon thought a probable cause of the tides, though he does not seem to have considered his inquiry into the subject to have been sufficient to enable him to decide the question. Now all these agencies, it is argued, whether they take place at smaller or larger distances, are bounded and finite; and it is an object of science, to ascertain their *maxima*, or extreme limits; and how far their effects depend on the bulk and quantity of matter in the bodies of which they are the properties; on the peculiar nature of the properties or qualities themselves; or on the fitness or unfitness of the mediums through which the agencies take place. Cases also are noticed in which things act *only* beyond given distances, and never by contact; as in *vision*, where the *focus* must be attended to. These examples relate to *progressive* motions: the *expansion* and *contraction* of bodies were also to be regarded as kinds of motion, the laws and limits of which ought to be subjected to admeasurement.

The *Instantiæ Radii* may, it is evident, be illustrated further, by numerous instruments now used in experiments in natural philosophy; and the greater part of which were unknown to our author. The *thermometer*, indeed, was extant in his time, as a new invention, and furnished him with one source of his experiments on *heat*, as we have seen in the *instantiæ ostensivæ*: this instrument has been the principal means of furnishing us with what we know of the agency of heat, even up to the present time. The *hygrometer* is another instance: this instrument, which has been greatly improved by Professor Leslie, enables us to measure the quantity of moisture contained in the air. To these may be added all our instruments for measuring lines and angles, or *mathematical* and *astronomical* instruments generally: also those instruments which measure weight or force; as the common *scales*, the *hydrostatic* balance, and the *barometer*.

No part of Bacon's work is more calculated than this to show the comprehensive view he took of the agencies of nature, even when physical science was as yet in its first dawn. The instances in which bodies act on each other at a distance led him to form some confused idea of that universal principle, *gravitation*, which Newton afterwards so triumphantly demonstrated and applied. He suggests that there may be some kind of "magnetic virtue which operates by consent, between the globe of the earth and heavy bodies; or between the globe of the moon and the waters of the sea; or between the starry heavens and the planets, by which they may be drawn to their apogees," or greatest distances from the earth.

These *Instantiæ Radii*, which point out cases of quantities to be measured, are introduced by Bacon merely as useful in practice: they might, at the same time, have been considered as highly important, in what he terms the discovery of *forms*, or the inquiry into the natures, essences, or causes of the objects of investigation, so far forth as they may be approached. Newton found that *gravity* not only makes bodies fall to the earth, but also retains the moon in her orbit: now this could never have been shown without the previous determination of several quantities, as the law of *accelerated velocity* in falling bodies; the length of the *earth's radius* or the distance from its centre to its circumference; the *moon's distance* from the earth, and the *velocity* with which she revolves round it in her orbit. A comparison of these elements, viewed in connection with the *laws of motion*, could alone have proved that it is the same kind of force which brings a stone to the ground, and keeps the moon in her proper course. In this case, therefore, as in many others, the instances in which geometrical measures are assigned and compared, the *theory* of physics has been eminently advanced.

22. The *second* class of the instances of *measure* are termed *Instantiæ Curriculi*, instances of the *course*, in which the qualities and actions of bodies are measured by *time*. Hence Bacon also calls them *instantiæ ad aquam*, instances of the *water-glass*; alluding to the *hour-glasses* of the ancients, in which they employed water instead of sand. "For," says he, "every movement or action of nature is performed in some portion of *time*; one indeed more swiftly; another more slowly; but, all in a certain number of moments, adapted to nature. Even those actions which seem to take place in the *twinkling of an eye*, as we say, are yet different in time, as to more or less."

Familiar examples of this class are all the more obvious movements of nature, as seen in the revolutions of planetary bodies; the ebb and flow of the sea; the fall of bodies to the earth; and all animal and mechanical motions. Also the velocity of sound, as witnessed in the firing of guns, and in thunder; and of light, as exemplified by calculation of the times of the eclipses of satellites, and even more remarkably in the aberration as discovered by Bradley. The *expansions* and *compressions* of bodies also, and *explosions*, as in gunpowder, must have, in each case, their own proper *times*, if we could accurately measure them.—In many cases nature is, as it were, prevented from producing her effects, for want of due time for her operations; the hand may be rapidly passed through flame without being burned; small vessels of water may be swung round in such a manner, vertically, as not to be spilled; and a ball fired across the axis of vision is not seen, because the motion is too rapid for the eye to be impressed by it.

One passage, which occurs under this head, is too remarkable to be omitted, as presenting an anticipation of the very examples we have just adduced, though commented on afterwards by the author in a doubtful manner. "Some cases have produced in me a suspicion altogether surprising; namely, whether the face of the serene and starry heavens be seen at the very time it exists, or not till some time later; and whether there be not, with regard to the light of the heavenly bodies, a *true* time and an *apparent* time, as well as a true place and an *apparent* place, according to the astronomer, on account of *parallax*; so

incredible does it seem that the rays of the celestial bodies can instantaneously pass to us, through such an immense space of miles, and not require even some considerable portion of time."

23. *Thirdly*, of the same class are the *Instantiæ Quanti*, instances of *quantity*, (literally, of how much.) These are cases in which the *virtues* or properties and effects of things are measured by the quantity of matter they contain. Examples adduced are that large collections of water do not easily become stagnant, like small ones; wines are matured and improved by being bottled off in small quantities; a magnet attracts more iron than any part of it when separated, though masses of all sizes as well as densities are equally attracted to the earth; sharp and angular points penetrate and divide bodies the most easily. The effects of *quantity*, therefore, Bacon observes, are to be carefully estimated. The importance of this to practice is obvious, if we name only chemistry and medicine.

28. The last of the four instances of measure are the *Instantiæ Luctæ*; instances of *resistance*; "which," says the author, "we also call *prevailing* instances; that is, such as show the subjection of *virtues* to one another; or which of them is the stronger and prevails, and which the weaker and submits; for the motions and struggles of bodies are no less compounded, recompounded, and complicate than bodies themselves."

In order to illustrate these *instantiæ luctæ*, Bacon introduces no less than *nineteen* kinds of *motion* (*motus*) or resistances, all differing, as he considers, from each other, and in their effects. He here, however, employs the word *motus* in a more general and less proper sense, than merely as signifying actual *change* of place; for in some of the cases nothing more is meant by it than certain *tendencies* in matter to resist certain external forces; thus his *Motus antitypiæ* he defines to be the resistance or repugnance which all bodies discover to the annihilation of their minute parts—it is, in short, the *indestructibility of matter*; a property which, so far as we are acquainted with nature, seems to be universal. Science may resolve matter into its component parts, or go far at least towards doing so; its form may be from the solid to the fluid, or the *aëriiform* state; and it may combine into various ways with other matter; as may be seen in almost every chemical process, and in the dissolution of animal bodies after death; but only the Power that created matter can reduce it to nothing. To a careless observer, the fallen leaves of vegetables, which rot upon the ground, would appear to be lost for ever; but *Berthollet* has shown, by experiment, that whenever the soil becomes charged with such matter, the oxygen of the atmosphere combines with it, and converts it into carbonic acid gas. The consequence is, that this same carbon is absorbed by other vegetables, which it clothes with new foliage; these, in their turn, decay, and thus resolution and renovation go on to the end of time. In short, in the whole circle of the material world, we never witness a single instance of destruction or annihilation.

Bacon even enumerates, among these kinds of motion (*motus*), what is now called the *inertia* or *inactivity* of matter; a property by which it resists any change endeavoured to be made in its state, either of rest or motion; and which property is the foundation of the three *laws of motion*, as delivered by Newton in his *Principia*. Bacon singularly

calls it *Motus decubitus*, aut *motus exhorrentiæ motus*, the *motion* (tendency) of *repose*, or of *avoiding motion*. Among the kinds of motion, or tendency, mentioned as belonging to the *Instantiæ Luctæ*, are also the following :—

Motus libertatis, the motion of *liberty* ; or, as our author means, *elasticity* ; that property of bodies by which they restore themselves to their original figure, after compression ; as is seen in the springs of watches ; air in air-guns ; Indian-rubber, etc.

Motus hyles, from a Greek word signifying matter, is the capacity of *expansion* ; or the tendency of matter, under certain circumstances, to enlarge its bulk : the effect of *heat*, in expanding bodies ; and gun-powder in explosions, are named as familiar examples.

Motus continuationis, or the attraction of *cohesion*, by which the particles of the same mass are kept together, as forming its component parts. The modern experiments on the strength of different substances, by finding what weights are necessary in order to tear them asunder, are founded on this property. These experiments have been made with bars of wood, metals, glass, etc., of given dimensions, and it has been found that the cohesive strength of a body is in the joint proportion of its elasticity, and toughness, and the area of its section. Newton conjectured *cohesion* in bodies to be that which constitutes them of different forms and properties.

Motus indigentiaæ, the motion of *preference* ; or the tendency which bodies have to unite with some bodies rather than with others. Thus the surface of mercury in a glass bottle appears *convex*, but in a metallic vessel, it appears *concave*, in consequence of its tendency to adhere to the sides of the vessel, as it has a greater attraction for metal than for glass. Chemical attraction, or affinity, also furnishes innumerable examples. Bacon seems to confound this *elective* attraction with *capillary* attraction ; from which it differs as much as it does from the attraction of cohesion, or aggregate affinity.

Motus congregationis majoris, the motion of *greater aggregation*, or, if we may distinguish it from cohesion, in modern language, the *attraction of aggregation*, “ is that,” says Bacon, “ by which bodies are carried to the masses of their own natures.” This may be illustrated, if we carefully observe two small globules of mercury moved towards each other along a smooth surface : their mutual attraction will be evident immediately before they unite into one globule ; or, if two pieces of cork be floated in a basin of water, not nearer to its edge than to each other, they will visibly approach, and at last come into contact.

Motus fugæ, or the *motion of avoidance*, though very crudely and almost ludicrously illustrated by Bacon, has its foundation in fact, and is that property of matter which is now called *repulsion*. Newton found that a convex *lens*, when put upon a flat glass, remained at the distance of the $\frac{1}{137}$ th part of an inch ; and that a very considerable force was requisite to diminish this distance. Again, though steel is so much heavier than its bulk of water, yet if a dry *needle* be placed carefully upon the surface of a basin of water, it will float ; the repulsion of the water preventing its sinking. Also the particles of all *gases* seem to repel each other, as appears from their elasticity. According to Boscovich, the atoms of which bodies are composed are capable of acting on each other with a force, which differs in intensity, and in kind, according to

the distance. At sensible distances the force is *attractive*, and diminishes inversely as the squares of the distance. At the smallest distances the force is *repulsive*; it increases as the distance diminishes; and at last becomes infinite or insuperable. Hence if Boscovich's theory be correct, absolute contact, however paradoxical this may appear, is impossible. Facts, at all events, prove, in many cases, a repulsive power, whatever be its precise laws; and to these facts may be added, though somewhat differing from the former examples, the repulsion of electrified pith balls; also of the similar poles of two magnets. In the latter case, all the force of a strong man has proved insufficient to make the two north poles touch each other.

Motus assimilationis is the tendency of certain bodies "to convert other bodies related to them," says Bacon, "into their own substance and nature." He instances *flame*, which multiplies itself by decomposing certain substances; also animals, which seem to have a power of assimilating their food into the nature of their own bodies. However vague the notion of *assimilation* may be, Bacon's distinction here is sufficiently obvious.

To the above is subjoined *Motus excitationis*, or a tendency to *excite* and diffuse a quality. Thus *heat* diffuses itself when other bodies are heated; and the magnet gives to iron a new property without losing its own power. The distinction of this from the former *motion*, or property, lies in the circumstance of there being here no *transformation* of substances, but only a diffusion or multiplication of some virtue, or quality.

Motus impressionis, or the *motion of impression*, occurs where there seems to be a continual communication of impulses from the body which is the original source of it: the rays of light are an example, because darkness is the effect of the removal of a body from which they flow; also sounds, which cease if the vibrations of the sonorous body are suddenly stopped.

Motus pertransitionis, or *motion of passage*, has respect to the effect which the *medium* through which agencies are carried on, may have on promoting or hindering their power: thus *heat* is differently *conducted* by different bodies, or passes through them with various degrees of velocity; metals conduct it rapidly; earthy substances less so; and wood still more slowly. A ray of light, in passing from a rarer into a denser medium, as from air into water, becomes *refracted*, or is turned out of its course, and is bent towards the perpendicular. In an exhausted receiver, a bell can scarcely be heard to sound through the *attenuation* of the medium: and the experiments of Hauksbee and of Dr. Priestley show that, when the air is condensed, the sound is louder in proportion to the *condensation*; that is, in proportion to the quantity of air crowded in, and which operates as the medium of the sound, or the substance on which the vibration is first made, to be communicated through the atmosphere to our ear.

Motus rotationis spontaneus, the *motion of spontaneous rotation*, as seen in nature, is also mentioned; to which, says Bacon, belong the following considerations: the centre; the poles, or axis; the circumference; the velocity; the order, as from east to west, or west to east; the excentricity, if any, or deviation from circular motion; the declination, or the approach to, or recession from the poles; and

the variation of the poles themselves, if moveable, or, in modern language, *libration*.

The other species of *motus* introduced by Bacon, under the *Instantiæ Luctæ*, are somewhat more obscure and ill-defined. *Motus nexus*, or the motion of *connection*, seems to apply to those cases in which a vacuum is produced, and a fluid rises in consequence of the outward pressure being taken off, as in the common pumps and the barometer. *Motus minoris congregationis*, or the motion of *lesser aggregation*, is illustrated by the *cream* of milk floating on the surface, which Bacon attributes more to the attraction which homogeneous particles have for each other, than to the specific gravity of the cream being less than that of the milk.—*Motus magneticus*, or *magnetical* motion, is applied to the attraction of the heavenly bodies, from an idea, probably, that it might be a species of magnetism.—*Motus configurationis*, aut *situs*, motion of *configuration*, or *situation*, may apply to the shooting of *crystals* into their own peculiar forms; or to the fixed tendencies of bodies to preserve the disposition of their internal parts, as their threads and fibres, and their cellular or solid structures. Bacon singularly refers hither the inquiry into the direction of the celestial motions; also the polarity of the magnetic needle.—*Motus politicus*, or the motion of *government*, is excessively fanciful and obscure: it is said to be the ruling power, or property in any body, controlling all the rest, and it "*principally reigns in the spirits of animals*." We should scarcely suspect Bacon of *materialism*, yet he seems to have been extremely disposed to introduce mechanical causes in order to account for effects which they are entirely insufficient to explain. *Motus trepidationis*, or the motion of *trepidation*, he illustrates by the hearts and pulses of animated beings.—This long dissertation on *motions*, whatever crudities and fancies it may contain, is very curious and interesting, and we have thought it worth while to analyse it briefly, as showing on what properties in nature our discriminating author founded his distinction of *Instantiæ Luctæ*.—This class of facts might be further illustrated, were it necessary, by the instruments used in England, by Cavendish, and in France by Coulomb, for experiments on *torsion*; a term employed by the latter philosopher to denote the effort made by a thread which has been twisted to untwist itself. These instruments, by means of the force of torsion, measure very small, and almost insensible actions.

The three remaining practical instances are termed *Instantiæ Propitiæ*, or instances *propitious* to practice, in the way of immediately directing, simplifying, and facilitating it.

(2.) *Instantiæ Propitiæ, Instances facilitating Practice.*

25. Of these, the *first* are the *Instantiæ innuentes*, *intimating* or *directing* instances; that is, those which tend to free practice from useless pursuits, and direct it chiefly to such as are beneficial and advantageous to mankind; such facts in nature and in experimental science as are worthy of being attended to and pursued, because they open direct prospects of usefulness and improvement, as it respects the arts and conveniences of life.

26. The *second* of this order, Bacon terms *Instantiæ Polychrestæ*; or things that are *generally useful*, as applicable to a great variety of

investigations, by shortening and facilitating the process. To this head belong the method of conducting experiments, and the instruments and apparatus to be employed in them, which he proposed to treat particularly in a subsequent part of his work. He here notices a few general considerations which are essential to practice in a great variety of cases.

In experiments, such things are carefully to be excluded as might *disturb*, or *modify* the given process; as the common *air*, where this can be supposed to have that effect; for the same end, the matter, strength and thickness of the *vessels* in which certain processes are carried on is to be attended to; also the manner of *closing* them where they are to be closed, as by luting, or hermetically sealing, for instance; the rays of the *sun* too must often be excluded. The effects of *compression*, *condensation*, *agitation*, *extension*, *rarefaction*, etc., are to be observed in many chemical and other processes. And here Bacon's conjecture must not be omitted, that it was possible "air might be converted into water by condensation." *M. Biot*, if we mistake not, first proved this conception of our great philosopher to be true, and succeeded in forming water from hydrogen and oxygen, by *compression* only, independently of the electric spark. To these considerations are to be added that of the agency of *heat* and *cold*; and the modification these may introduce into certain experiments; also the effect produced by the *medium* through which the heat may be communicated to any substances, by the structure of *furnaces*, and by the manner in which the fire may be *applied*. Again, regard is to be had to the effect which may be produced by a process being left to go on undisturbed, and by itself, for a longer or shorter *time*. The figure, position, and situation of the vessels that are employed, are to be considered. The *sympathies* and *antipathies* of bodies, as Bacon terms them, are to be noticed where these may have an influence; of these, chemical *affinities* and *elective* attractions are obvious instances. Lastly, advantage is to be taken of what is known with respect to all the above particulars, in order, by their means, to modify, combine, and vary experiments.

27. The *third* of the instances "*propitious*" to practice, and the last of the "*prerogative*" instances, are named *Instantiæ Magicæ*, *magical* instances; and Bacon understands by this term those facts in which great and wonderful effects are produced by apparently trifling causes. Nature, he observes, "is herself sparing in these instances;" but in harmony with the very sanguine, and we fear illusory expectations which we have seen he entertained, he adds, "what she may do, when further searched and entered into, and after the *discovery of forms, latent processes, and concealed structures*, will appear to posterity." He notices as *magical* or marvellous instances, the power of *fire* to multiply itself; the effect of *poisons* on the human frame; the communication and apparent *multiplication of motion* in a set of wheels, each impelling the other; the *loadstone* animating a number of needles without loss of its own magnetic power; the origination of *motion* in explosions of gunpowder, and also of gas in mines.

Tinctured somewhat, perhaps, with the wild notions of *alchemy* then prevailing, Bacon seems to augur from such facts as the above, that wonderful things may be accomplished by human power, in

"changing bodies in their smallest parts, and in all kinds of transformations." He adds, however, "of these we have hitherto no certain indications. And as in things solid, true, and useful, we aspire to the highest perfection; so we perpetually despise, and to the utmost of our power discard and reject such as are vain and empty."—Here ends the doctrine of "*Instances*" and all that was finished of the *Novum Organon* by its illustrious author.

It was Lord Bacon's design, after treating of the *instances*, of which we have now given the analysis, to proceed to the *helps* of induction; the *rectification* of induction; the method of *varying* inquiries; the prerogative *natures* for inquiry; the *limits* of inquiry, in a list of *all the natures* in the universe; the reduction of inquiries to *practice*, or to the use of mankind; the *preliminaries* to inquiry; and the *scale of axioms*, or principles.

These eight last topics were deferred, probably, till the author had found time to accumulate more materials, and they were never discussed; so that his work was left in an unfinished state. Several of the particulars, however, here enumerated are not very distinct from some of the heads already treated of, and seem to lead us back over the same ground; whence we may conclude that Bacon was fully aware that, in the existing state of the knowledge of nature and fact, in his time, his system of philosophizing could only be regarded as a sort of outline, or sketch of scientific inquiry, and needed to be worked over and over again, by way of continual approximation to truth.

What more he had to deliver on these particulars we shall not now conjecture; but it may be remarked, that by *prerogative natures* for inquiry, he seems to have intended those causes in nature, or those agencies, which present themselves as of the most obvious and prime importance, in consequence of their involving, frequently, other inquiries: thus *temperature* is so important a consideration in various experiments, especially in chemistry, that *heat* may be considered as an example belonging to the class of what are here technically termed prerogative natures. The project of making an *inventory* (*synopsis*) of *all the natures* in the universe, appears to have arisen out of our author's very sanguine ideas, as before noticed, relative to the *discovery of forms*. If by *natures* he here means *simple substances*, or those which are incapable of being decomposed by art, it is obvious that such substances may decrease in number with the progress of science. Previously to Sir Humphry Davy's distinguished researches in chemistry, the simple bodies were supposed to be about fifty in number; the facts he has brought to light, however, make it difficult to say what substances, regarded as simple, may not be capable of analysis: witness this philosopher's discovery of the metallic bases of the fixed alkalis; his decomposition of most of the earths; and his experiments on sulphur and phosphorus: all these substances were previously thought to be strictly simple.

Though no direct attempt, so far as we are aware, has been made to supply the parts of the *Novum Organon* that are wanting; nor any complete logical system founded on the same basis of induction has been published, which might serve as a perfect directory in philosophical investigations; yet there have not been wanting some efforts of a similar kind, towards promoting the advancement of the sciences.

Descartes wrote a treatise expressly *De Methodo*, or the Method of Science, with the view of remedying the defects of the ancient plan of philosophizing, of which he seems to have been convinced. But though he flourished nearly half a century later than Bacon, and was acquainted with his writings, he pursued a course quite the contrary to that pointed out in the *Novum Organon*; which is the more singular, because, in one of his letters, he seems to acknowledge that if the experimental method of philosophizing were the true one, nothing could be superior to Bacon's rules. Descartes was anxious for a reform in the sciences; and, skilled as he was in mathematics, he was able by his genius to extend the limits of geometry as far beyond the place where he found them as Newton did after him; for he it was, principally, who developed the application of algebra to geometry, on which all modern mathematics rest; yet he was so misled by the humour of framing hypotheses, that his philosophical system is little more than an ingenious romance, and has long ceased even to be read as a matter of curiosity. In physical science, he seems never to have proposed to himself any thing like Bacon's plan of a strict *induction*; for though he did not reject experiment altogether from his philosophy, he employed it in the most loose and inefficient manner possible. He tells us that he was always able to discover *effects* by reasoning: "we employ experiment," he says, "not as a reason by which any thing is proved, for we wish to deduce effects from their causes, and not inversely, causes from their effects. We appeal to experience only, that out of innumerable effects which may be produced from the same cause, we may direct our attention to one rather than another." How different this from the tone of the very first sentence of the *Novum Organon*—MAN, THE SERVANT AND INTERPRETER OF NATURE, UNDERSTANDS AND REDUCES TO PRACTICE JUST SO MUCH AS HE HAS ACTUALLY EXPERIENCED OF NATURE'S LAWS; MORE HE CAN NEITHER KNOW NOR ACHIEVE.

It is evident that such a mode of philosophizing as this was precisely the reverse of Bacon's. Instead of proceeding upwards from effects to causes, or, as Bacon would term it, *raising axioms* from particular instances, Descartes proceeded directly in the contrary order, from causes to effects, or from generals to particulars; and this without having previously established his general conclusions in a scientific manner, or received sufficient evidence that they could be properly applied to the given particular cases. In this way he proposed to explain all the phenomena of the universe *à priori*, that is, by deducing them from his general principles by abstract reasoning; and instead of the patient caution which generally distinguished Bacon's vast analogical powers, Descartes, while he sets out with a scepticism so universal as even to make him not admit his own existence till he has attempted to prove it, at the same time exhibits, in his theories, the most unphilosophical credulity and rashness. Hence, though he certainly has the merit of great original genius in pure mathematics, his physical speculations produced the hypothesis of a *plenum* and *vortices*; or that the planetary bodies are whirled round by a subtle matter of which the universe is full; an hypothesis which, it scarcely needs be remarked, was equally applicable to all the systems of astronomy, whether that of Ptolemy, Tycho, or Copernicus; and rested upon the assumption of motions not proved to exist; or even if they did exist, just as

much needing inquiry and explanation as those they are called on to solve.

M. Tschirnhausen, a member of the Royal Academy of Sciences, at Paris, published, in 1687, an essay, entitled *Medicina Mentis, sive Tentamen genuinæ Logicæ*, "Assistance to the Understanding, or an Attempt towards a genuine Logic; in which is discussed the Art of finding general Principles, and the method of discovering unknown Truths." This work, which discovers much ingenuity, is not, however, adapted to practice; and may be regarded as illustrating Lord Bacon's caution in the first book of the *Novum Organon*, with respect to the influence which particular studies may have in biassing the mind in its inquiries after truth. *M. Tschirnhausen*, reflecting on the little controversy there is among mathematicians, compared with the disputes among students in other branches of science, considered that a method strictly mathematical might be applied with effect to these other branches. Hence he thought that unknown truths might be discovered precisely in the same manner in every science, as in pure mathematics. He even fancies that the difference between the "perceptions of the imagination," as he terms the notions we form of things by sensation merely, and the "conceptions of the understanding," such as that a whole is greater than a part, may come under mathematical calculation! In short, by natural philosophy, *Tschirnhausen* seems to understand something not very different from *Descartes'* notion of it above mentioned, namely, a knowledge of the universe demonstrated *à priori* in mathematical order, and confirmed *à posteriori* by experiments.

At an earlier period, the *Hon. Robert Boyle* ably seconded and practically improved the plan of experimental philosophy. This distinguished man, who was born the year Bacon died, was among the first originators of the Royal Society; which was formed, in 1645, for the purpose of improving experimental knowledge on the plan laid down by Bacon. Boyle's valuable experiments in various branches of science show that he had deeply imbibed the spirit of his great master's system; and, independently of his discoveries and improvements, they constitute a most important addition to what Bacon had so loudly called on philosophers to labour at obtaining; namely, a more extensive and accurate history of nature. Many of Boyle's essays contain remarks on the method of pursuing the inquiries of science, highly calculated to facilitate and promote the grand object which Bacon pointed out, and to familiarize to philosophers the practice of an enlightened induction.

Dr. Hooke, contemporary of Boyle, a man of great mechanical science, who laid claim to several useful inventions and discoveries, and whose fame is much less than his deserts, partly because he was eclipsed by Newton, and partly because he wearied men with his inordinate pretensions, seems to have formally designed an attempt of a similar kind with Bacon's. He entitles his work "The true Method of building a solid Philosophy; or a *Philosophical Algebra*." "This," he says, consists of two parts: first, the manner of preparing the mind, and furnishing it with fit materials to work on; secondly, the rules and methods of proceeding, or operating with this so collected and qualified *supellex*." All that *Dr. Hooke* has left us of this posthumous piece, is little more than what Bacon has sketched in the first book of the

Novum Organon. The second part seems never to have been written, so that what the “Philosophical Algebra” was precisely to have been, must be left to conjecture.

We may safely assert, that whatever more may hereafter be done in the way of rules for scientific inquiries, can only proceed on the plan of Bacon, as the groundwork: for the method of induction is founded on the principles of human nature itself; and only needed to be fairly presented to the minds of men, generally, in order to command their approbation and support. Not, indeed, that the inductive method, as we may here take the opportunity of observing, is properly to be considered as *opposed* to the syllogistic, in which light it has been the fashion to represent it. Induction is not a distinct kind of argument from the syllogism adopted by Aristotle; that is, if by induction we understand as we ought to do, and as Bacon understands it, not merely the process of investigation, and of collecting facts, but also the deduction of *inferences* from these facts. This deduction is, of course, an argumentative process, capable, if necessary, which is, perhaps, scarcely ever strictly the case, of being put into a syllogistic form; for a syllogism is nothing more than any argument whatever, stated in order, technically, and at full length; it is an expansion of the assertions that are implied and contained in the propositions with which we commenced; and it points out the complete force of what has already been virtually admitted. The fault of the Schoolmen lay in reasoning from *false premises*, that is, in drawing conclusions from insufficient *data*; and in employing the syllogism for the purpose of making discoveries in natural science, without instituting sound philosophical inquiries.

If the real merit of a system is to be estimated by its actual effects, Bacon's *Organon*, and some of his other philosophical writings, must be reckoned among the fairest fruits which the genius of man has bequeathed to his fellows. Let the whole spirit and manner of the writings of such men as *Boyle*, *Hooke*, and *Locke*, who were Bacon's almost immediate successors, be compared with the method of those who preceded him, and it will be impossible not to perceive the commanding influence of Bacon's labours, and the very distinct character they impressed on the next age. Even Newton's incomparable genius might never have awoke to all its strength, unless Bacon had previously cleared the theatre where it was to act, and made a way for the free exercise of its energies, by removing the chief obstructions to its mighty career. The indications and the germ of several of Newton's discoveries are certainly to be detected in Bacon's works; and had Newton been born a century earlier, instead of beginning where Bacon left off, and standing on the vantage-ground reared by his labours, the world might have lost many of the most important advantages he has been able to confer on it, by means of the experimental method. Bacon scattered away the darkness of error from that horizon in which Newton was afterwards to appear, or Newton might never have had power to soar as he did into the third heavens of truth, and to pour such a flood of light over the whole field of natural science, as to excite the admiration and astonishment of his own and all succeeding ages.

Though the triumph of truth over error seems always destined to be a gradual process, it is a well-known fact that Lord Bacon's philosophical writings did not fail to make a very early impression

on the learned world, both at home and abroad. The University of Oxford presented an address to him in 1623, in which he is represented "as a mighty *Hercules*, who had by his own hand greatly advanced those pillars in the learned world, which by the rest of the world were supposed immoveable." This tribute to Bacon's merit as a philosopher has the greater weight, because it was offered, as *Macvey Napier* remarks, "when all motives to interested adulation had been done away by his lamentable fall."

The Baconian philosophy seems, afterwards, to have made greater progress at Cambridge than at Oxford, notwithstanding the above testimony from the latter University to the genius of its author. "*Glanvil* lamented," says *Anthony Wood*, "that his friends did not send him to Cambridge; because he used to say, that the new philosophy, and the art of philosophizing, were more cultivated there than here at Oxford." This was about the year 1652;—Lord Bacon died in 1626. That the spirit of free inquiry in which the *Royal Society* originated, was chiefly owing to the effect of Bacon's writings cannot be disputed. For information on this subject it is sufficient to consult *Bishop Spral's* History of the Royal Society, and *Dr. John Wallis's* account of his own life. A host of other authorities might be accumulated, were it necessary, in proof of the direct and early influence of Bacon's writings in forming the new English school; of these testimonies a great variety are collected in *Napier's* masterly tract, entitled, "Remarks Illustrative of the Scope and Influence of the Philosophical Writings of Lord Bacon."

On the continent of Europe, his philosophical reputation was early acknowledged. *Dr. Rawley* says that "his fame was greater, and sounded louder in foreign parts than at home;" and that "divers of his works had been translated, more than once, into other tongues, both learned and modern, by foreign pens." In 1652, *Lewis Elzevir* was about to publish Lord Bacon's works in Holland, as writings "long received with the most attested applause of the learned world." *Gassendi*, a strenuous opponent of the philosophy of Aristotle, and of that of Descartes, was one of Bacon's earliest disciples in France, being born in 1592. Bacon's correspondence with *Baranzan* proves how early his writings had attracted notice in Italy. We might add the testimony of *Commenius*, in Germany, so early as 1643, together with those of a number of other philosophers quoted at length by Mr. Napier, all showing that the revival of science, not only in England, but on the continent, is mainly to be traced to the effect of Bacon's writings, and this at no distant period from their publication.

That the labours of our illustrious philosopher should have excited jealousy and alarm in some quarters, and especially among those who were still devoted to Aristotle, is what we were quite prepared to expect. Error and party interest shun the light, and are ever ready to brand all attempts at improvement with the name of dangerous innovation. Perhaps no great endeavour for the welfare of mankind ever escaped this doom, or failed to rouse the tocsin of alarm. A hue and cry was accordingly soon raised against the New Philosophy, and a keen pursuit kept up, with the laudable view, if possible, of putting it down. The *Novum Organon* is now considered harmless enough surely; and in modern times, it has been permitted to slumber be-

tween its covers pretty much unmolested by the majority of mankind, who little know how greatly they are indebted to it for the effect it has had towards producing many of the arts and conveniences of life; but time was, when 'it was necessary to allay men's fears and jealousies of its doctrines having a sort of magic power to produce "dangerous revolutions," "subvert" governments, and overturn the authority of religion. Such, at an early period, were the alarms of not a few, and among the rest, of *Dr. Henry Stubbe*, who denounced the whole tribe of Experimentalists, with the singularly happy and courteous epithet of a "*Bacon-faced generation*;" and after informing us, in great simplicity, that he has "small regard for deep and subtle inquiries into natural philosophy," says, that "we must rise as high in our resentments" against the said generation, "as the concerns of the present age and of posterity can animate us."

So malignant an aspect, in short, did some imagine Bacon's writings to have on what are infinitely the most important interests of the human race, that *he* was shrewdly suspected of favouring *atheism*, who had eloquently published to the world, "I would rather believe all the fables in the Legend, and the Talmud, and the Alcoran, than that this universal frame is without a mind." We should have supposed that any kind of tendency to irreligion would have been the very last thing that could be imputed to Bacon's works;—but such is prejudice. It is, in fact, a happy circumstance for mankind, that geniuses the most transcendent and original that ever lighted upon our world, who have thirsted the most ardently for knowledge, and have vindicated most boldly the freedom of the human mind from every yoke but that of truth, have been the farthest from meriting such a charge, in the writings they have left us. Such were Newton, and Bacon, and Milton, and Locke.

Though we have given the *analysis* of Bacon's great work, not merely as deeming it a curiosity in the history of science, but as tending to recal our attention towards principles to which we owe so much, and the study of which we should be sorry ever to see neglected as superfluous; yet we are free to acknowledge that the whole process, according to the detail which our great philosopher recommends, was strictly necessary in practice, chiefly in the infancy of science; or, where the subject of inquiry is altogether new, and one of which we have little or no knowledge. The world, as to its improvement in science, may, in some degree, be compared to an individual. The proficient in the art of music has no need to recollect at every step the names of the notes in the *gamut*, or the rules he has been taught for fingering the keys; nor would this be possible: when he has once acquired dexterity in music as an art, theory is converted into a true, though mechanical kind of practice: so now that science has made certain advances, and has established a series of truths, it may often be quite unnecessary to go through the whole process of *induction* from the beginning. After certain general and leading principles have been completely authenticated, these may serve greatly to shorten future inquiries, and much time and labour may of course be saved. Thus, after the laws of the reflexion, and the different refrangibility of light, and the nature of the colours which refraction produces, had been satisfactorily ascertained by experiment, Newton had the ma-

terials prepared for explaining the rainbow, nor was it necessary again to institute an inquiry respecting the above laws, as if they were unknown. Newton's *Optics*, it may here be remarked, may justly be regarded as a most perfect specimen of the *Baconian Induction*. Dr. Black's *Treatise on Magnesia Alba and Quicklime*, is also an excellent model of the inductive method, affording similar examples of safely proceeding to further conclusions by assuming things well known.

It must be allowed, also, that, in addition to the effect produced by the collection of facts, and composing a history of nature, and by long practice in the experimental method, inductive investigation has been more modified in some inquiries, by the employment of *mathematical reasoning*, than Bacon, who had not pursued mathematical studies, was prepared to expect. Though he pointed out the use of mathematics, in measuring and comparing the objects of natural philosophy, he was not, nor could he be, aware to what extent geometry and analysis would be applied, in generalising inquiries, and in rendering experiment in some cases less necessary. The laws of motion, for instance, are founded, of course, on experience; but from these laws, once established, the rest of the science of mechanics is chiefly deduced by reasoning. So also in optics, when a ray of light is refracted, or bent from a straight line, as when it passes from air into water, the angle which the refracted ray makes with the surface depends on that which the incident ray makes with it; and we must ascertain by experiment what angle of refraction corresponds to any given angle of incidence; but we must have recourse to geometry if we would know the constant relation which subsists between these angles, and be able to express this relation in general terms applicable to all cases, for, with regard to this, experiment does not directly inform us. But the great triumph of mathematics, as applied to physics, and which Bacon never could have believed possible, has been the discovery of certain phenomena in the planetary motions, never suspected until the sublime discovery of modern analysis indicated those appearances as cases of the general rule.

Perhaps Bacon, moreover, in his zeal against the visionary philosophy of the ancients, scarcely allowed, in his inductive theory, the use which, in some cases, even *hypothesis* may be of in assisting our inquiries. Newton employs almost in the manner of a motto, the expression '*hypotheses non fingo*,' *I do not devise hypotheses*. He might here allude to such hypotheses as the *vortices* of Des Cartes; for he himself, in some cases, used hypothesis. In a subordinate sense of the term, and, indeed, to a limited extent, it frequently appears necessary to do so. Newton's theory of gravitation took its rise from a conjecture suggested by *analogy*; and was afterwards verified by comparing the moon's revolution in her orbit, with the law of accelerated velocity, as exhibited in falling bodies near the earth's surface. Copernicus, in the same manner, was led by *analogy* to the true system of the universe, and the only evidence he could offer in its favour was its *simplicity*. This hypothesis of Copernicus, in the hands of Newton became an established fact. Indeed, in many cases of physical investigation, there is nothing before the mind for it to act on, but two or three different hypotheses, which it is the business of a strict induction to judge of, and to adopt that which most accords with the facts.

Hypotheses become dangerous only when they are admitted as *theories*, and when, instead of being employed as a temporary guide, stimulating the mind of the inquirer to observation and experiment, they are set up as substitutes for facts, and become idols of the imagination, before which reason is to bow. It was in this view that Bacon so loudly condemned them, while it must be acknowledged that he scarcely provided for a cautious and enlightened use of them. "Any hypothesis," as Dr. Hartley well observes, "which possesses a sufficient degree of plausibility to account for a number of facts, helps us to digest these facts, to bring new ones to light, and to make *experimenta crucis* for the benefit of future inquirers."

Whatever defects or redundancies, however, the triumph of the Baconian method for two centuries has enabled us to perceive in the writings of its distinguished author, we cannot look on what he has actually done for science but with surprise and admiration. No one before him seems thoroughly to have been possessed with the idea of the folly of supposing a being of such imperfect and limited faculties as man capable of explaining nature's laws and operations by means of reasonings *à priori*. If there are beings to whom this is given, it is certainly denied to man; and the grand lesson which Bacon taught the world was, that all false philosophy might be traced to a mistake as to the real powers of the human mind, and the proper direction in which, from its nature and present condition, it must always submit to act, in the acquisition of knowledge. It had in general sought to attain to truth by eccentric movements and forced marches, while the only method suited to its capacities was looked on with contempt or disregard—that of simply feeling its way out of darkness into light. That Bacon probably overrated the effects of the inductive method, we have already remarked; this, however, was a very different thing from the ancient error of supposing the mind capable of inventing true theories without the labour of experience. It is certain that Bacon believed it within the limit of possibility to transmute other substances into gold; and on this account he has been identified with the disciples of *Raymond Lully* and *Jordano Bruno*. No one, however, could be more sensible than himself of the general folly of the pursuits of the alchemists; and his belief in *transmutation* arose out of his sanguine ideas of the resources of the inductive method—resources as yet untried and unknown; for we may venture to say that, in his time, there was not a sufficient collection of facts and experiments to authorise the conclusion that even the *essences* of different substances might not hereafter be discovered, when the new philosophy, then only in its infancy, should be matured. Time indeed has not fulfilled these anticipations, but Bacon's speculation with regard to transmutation was entertained after him by Boyle and others; and there is evidence that it was not decidedly opposed even by Newton himself.

The study of Bacon's philosophical works in general, and especially of the *Novum Organon*, cannot fail to be highly beneficial to all persons who are entering on scientific pursuits, and to all who are engaged in inquiries after truth of whatever kind. Their general tendency will be, if we do not greatly err, to inspire a habit of close and patient thinking,—an intellectual independence, which resists all that is merely of the nature of hypothesis, while it bows with implicit

deference to the authority of fact and experience. The nature of the different kinds of evidence; the different subjects to which they are properly applicable; the degree of that sort of evidence that is called moral, which it is reasonable to expect in any given case; the proper limits both of doubt and of belief; the whole order of circumstances of whatever kind that may have any bearing on the impression which evidence may make, or may fail to make, on the mind;—these very interesting topics of inquiry, as well as every other subject relating to moral and intellectual philosophy, are not less properly and strictly within the sphere of the operation of the Baconian method, than the more tangible properties of matter itself, and the laws of the material universe in general. The spirit of the inductive philosophy is in perfect unison with man's intellectual nature; it offers a true corroborative to his faculties in his pursuit of truth; and the more completely this spirit is imbibed, the more shall we be guarded from the extremes of credulity on the one hand, and incredulity on the other.

Bacon's style has been condemned as "stiff and rigid;" and his wit as "often unnatural and far-fetched." He certainly employs, to a considerable degree, the quaint and highly figurative diction which was the fashion of his time. Of this we have remarkable specimens in many of his divisions in treating the doctrine of "*Instances*;" notwithstanding this, however, his style is not so often chargeable with vagueness or obscurity as might be supposed. When it is, this arises usually from his not defining his terms, from his adopting the old scholastic words and phrases with a new meaning, and employing the same word in different senses. His rich, prophetic imagination led him to the use of a lofty and poetic diction, which, though it may not altogether approve itself to a severe and philosophical criticism, often clothes his conceptions with singular beauty, embodies them to the imagination in forms of commanding energy, and impresses them deeply on the mind. His latinity in the *Novum Organon* is not to be despised; though he necessarily uses words and adopts meanings which are not to be found in the authors of classical antiquity: the subject on which he writes was new to the learned world, and he was evidently more solicitous to make himself understood, than to attain to the Augustan purity of the Roman idiom, or discourse in the music of its cadences, as we find them in Cicero's philosophical writings.

In closing this Treatise we may safely affirm, that, by giving the Inductive Philosophy to the world, Lord Bacon has proved one of its most signal benefactors; and has largely done his part towards promoting the final triumph of all truth, whether natural, or moral and intellectual, over all error; and towards bringing on that glorious crisis, destined, we doubt not, one day to arrive, when, according to the allegorical representation of that great poet who was not only the admirer of Bacon, but in some respect his kindred genius—**TRUTH**, though "hewn, like the mangled body of Osiris, into a thousand pieces, and scattered to the four winds, shall be gathered limb to limb, and moulded, with every joint and member, into an immortal feature of loveliness and perfection."

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L I V E S

OF

E M I N E N T P E R S O N S ;

CONSISTING OF

GALILEO,	LORD SOMERS,
KEPLER, '	CAXTON,
NEWTON,	BLAKE,
MAHOMET,	ADAM SMITH,
WOLSEY,	NIEBUHR,
SIR E. COKE,	SIR C. WREN, AND
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His education at Oxford, and disappointment of a fellowship	1, 2	The royal ships effect a passage through his squadron, after sustaining great loss, and arrive in the Tagus	ib.
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— educated at Oxford, where his genius was particularly remarked by Ough-tred and Bishop Wilkins	ib.	Outline engravings, representing the comparative heights and sizes of some of the largest buildings in the world	20, 21
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LIFE OF GALILEO:

WITH ILLUSTRATIONS OF THE ADVANCEMENT
OF EXPERIMENTAL PHILOSOPHY.

CHAPTER I.

Introduction.

THE knowledge which we at present possess of the phenomena of nature and of their connection has not by any means been regularly progressive, as we might have expected, from the time when they first drew the attention of mankind. Without entering into the question touching the scientific acquirements of eastern nations at a remote period, it is certain that some among the early Greeks were in possession of several truths, however acquired, connected with the economy of the universe, which were afterwards suffered to fall into neglect and oblivion. But the philosophers of the old school appear in general to have confined themselves at the best to observations; very few traces remain of their having instituted *experiments*, properly so called. This putting of nature to the torture, as Bacon calls it, has occasioned the principal part of modern philosophical discoveries. The experimentalist may so order his examination of nature as to vary at pleasure the circumstances in which it is made, often to discard accidents which complicate the general appearances, and at once to bring any theory which he may form to a decisive test. The province of the mere observer is necessarily limited: the power of selection among the phenomena to be presented is in great measure denied to him, and he may consider himself fortunate if they are such as to lead him readily to a knowledge of the laws which they follow.

Perhaps to this imperfection of method it may be attributed that natural philosophy continued to be stationary, or even to decline, during a long series of ages, until little more than two centuries ago. Within this comparatively short period it has rapidly reached a degree of perfection so different from its former degraded state, that we can hardly institute any comparison between the two. Before that epoch, a few insulated facts, such as might first happen

to be noticed, often inaccurately observed and always too hastily generalized, were found sufficient to excite the naturalist's lively imagination; and having once pleased his fancy with the supposed fitness of his artificial scheme, his perverted ingenuity was thenceforward employed in forcing the observed phenomena into an imaginary agreement with the result of his theory; instead of taking the more rational, and it should seem, the more obvious, method of correcting the theory by the result of his observations, and considering the one merely as the general and abbreviated expression of the other. But natural phenomena were not then valued on their own account, and for the proofs which they afford of a vast and beneficent design in the structure of the universe, so much as for the fertile topics which the favourite mode of viewing the subject supplied to the spirit of scholastic disputation: and it is a humiliating reflection that mankind never reasoned so ill as when they most professed to cultivate the art of reasoning. However specious the objects, and alluring the announcements of this art, the then prevailing manner of studying it curbed and corrupted all that is free and noble in the human mind. Innumerable fallacies lurked every where among the most generally received opinions, and crowds of dogmatic and self-sufficient pedants fully justified the lively definition, that "logic is the art of talking unintelligibly on things of which we are ignorant."*

The error which lay at the root of the philosophy of the middle ages was this:—from the belief that general laws and universal principles might be discovered, of which the natural phenomena were *effects*, it was thought that the proper order of study was, first to detect the general *cause*, and then to pursue it into its consequences; it was considered absurd to begin with the effect instead of the cause; whereas the real choice lay between proceeding from particular facts

to general facts, or from general facts to particular facts; and it was under this misrepresentation of the real question that all the sophistry lurked. As soon as it is well understood that the general *cause* is no other than a single fact, common to a great number of phenomena, it is necessarily perceived that an accurate scrutiny of these latter must precede any safe reasoning with respect to the former. But at the time of which we are speaking, those who adopted this order of reasoning, and who began their inquiries by a minute and sedulous investigation of facts, were treated with disdain, as men who degraded the lofty name of philosophy by bestowing it upon mere mechanical operations. Among the earliest and noblest of these was Galileo.

It is common, especially in this country, to name Bacon as the founder of the present school of experimental philosophy; we speak of the Baconian or inductive method of reasoning as synonymous and convertible terms, and we are apt to overlook what Galileo had already done before Bacon's writings appeared. Certainly the Italian did not range over the circle of the sciences with the supreme and searching glance of the English philosopher, but we find in every part of his writings philosophical maxims which do not lose by comparison with those of Bacon; and Galileo deserves the additional praise, that he himself gave to the world a splendid practical illustration of the value of the principles which he constantly recommended. In support of this view of the comparative deserts of these two celebrated men, we are able to adduce the authority of Hume, who will be readily admitted as a competent judge of philosophical merit, where his prejudices cannot bias his decision. Discussing the character of Bacon, he says, "If we consider the variety of talents displayed by this man, as a public speaker, a man of business, a wit, a courtier, a companion, an author, a philosopher, he is justly the object of great admiration. If we consider him merely as an author and philosopher, the light in which we view him at present, though very estimable, he was yet inferior to his contemporary Galileo, perhaps even to Kepler. Bacon pointed out at a distance the road to true philosophy: Galileo both pointed it out to others, and made himself considerable advances in it. The Englishman was

ignorant of geometry: the Florentine revived that science, excelled in it, and was the first that applied it, together with experiment, to natural philosophy. The former rejected with the most positive disdain the system of Copernicus: the latter fortified it with new proofs derived both from reason and the senses."*

If we compare them from another point of view, not so much in respect of their intrinsic merit, as of the influence which each exercised on the philosophy of his age, Galileo's superior talent or better fortune, in arresting the attention of his contemporaries, seems indisputable. The fate of the two writers is directly opposed the one to the other; Bacon's works seem to be most studied and appreciated when his readers have come to their perusal, imbued with knowledge and a philosophical spirit, which, however, they have attained independently of his assistance. The proud appeal to posterity which he uttered in his will, "For my name and memory, I leave it to men's charitable speeches, and to foreign nations, and the next ages," of itself indicates a consciousness of the fact that his contemporary countrymen were but slightly affected by his philosophical precepts. But Galileo's personal exertions changed the general character of philosophy in Italy: at the time of his death, his immediate pupils had obtained possession of the most celebrated universities, and were busily engaged in practising and enforcing the lessons which he had taught them; nor was it then easy to find there a single student of natural philosophy who did not readily ascribe the formation of his principles to the direct or remote influence of Galileo's example. Unlike Bacon's, his reputation, and the value of his writings, were higher among his contemporaries than they have since become. This judgment perhaps awards the highest intellectual prize to him whose disregarded services rise in estimation with the advance of knowledge; but the praise due to superior usefulness belongs to him who succeeded in training round him a school of imitators, and thereby enabled his imitators to surpass himself.

The biography of men who have devoted themselves to philosophical pursuits seldom affords so various and striking a succession of incidents as that

* Hume's England, James I.

of a soldier or statesman. The life of a man who is shut up during the greater part of his time in his study or laboratory supplies but scanty materials for personal details; and the lapse of time rapidly removes from us the opportunities of preserving such peculiarities as might have been worth recording. An account of it will therefore consist chiefly in a review of his works and opinions, and of the influence which he and they have exercised over his own and succeeding ages. Viewed in this light, few lives can be considered more interesting than that of Galileo; and if we compare the state in which he found, with that in which he left, the study of nature, we shall feel how justly an enthusiastic panegyric pronounced upon the age immediately following him may be transferred to this earlier period. "This is the age wherein all men's minds are in a kind of fermentation, and the spirit of wisdom and learning begins to mount and free itself from those drossie and terrene impediments wherewith it has been so long clogged, and from the insipid phlegm and *caput mortuum* of useless notions in which it hath endured so violent and long a fixation. This is the age wherein, methinks, philosophy comes in with a spring tide, and the peripatetics may as well hope to stop the current of the tide, or, with Xerxes, to fetter the ocean, as hinder the overflowing of free philosophy. Methinks I see how all the old rubbish must be thrown away, and the rotten buildings be overthrown and carried away, with so powerful an inundation. These are the days that must lay a new foundation of a more magnificent philosophy, never to be overthrown, that will empirically and sensibly canvass the phenomena of nature, deducing the causes of things from such originals in nature as we observe are producible by art, and the infallible demonstration of mechanics: and certainly this is the way, and no other, to build a true and permanent philosophy."*

CHAPTER II.

*Galileo's Birth—Family—Education—
Observation of the Pendulum—Pul-
silogies—Hydrostatical Balance—
Lecturer at Pisa.*

GALILEO GALILEI was born at Pisa, on the 15th day of February, 1564, of a noble

and ancient Florentine family, which, in the middle of the fourteenth century, adopted this surname instead of Bonajuti, under which several of their ancestors filled distinguished offices in the Florentine state. Some misapprehension has occasionally existed, in consequence of the identity of his proper name with that of his family; his most correct appellation would perhaps be Galileo de' Galilei, but the surname usually occurs as we have written it. He is most commonly spoken of by his Christian name, agreeably to the Italian custom; just as Sanzio, Buonarrotti, Sarpi, Reni, Vecelli, are universally known by their Christian names of Raphael, Michel Angelo, Fra Paolo, Guido, and Titian.

Several authors have followed Rossi in styling Galileo illegitimate, but without having any probable grounds even when they wrote, and the assertion has since been completely disproved by an inspection of the registers at Pisa and Florence, in which are preserved the dates of his birth, and of his mother's marriage, eighteen months previous to it.*

His father, Vincenzo Galilei, was a man of considerable talent and learning, with a competent knowledge of mathematics, and particularly devoted to the theory and practice of music, on which he published several esteemed treatises. The only one which it is at present easy to procure—his Dialogue on ancient and modern music—exhibits proofs, not only of a thorough acquaintance with his subject, but of a sound and vigorous understanding applied to other topics incidentally discussed. There is a passage in the introductory part, which becomes interesting when considered as affording some traces of the precepts by which Galileo was in all probability trained to reach his preeminent station in the intellectual world. "It appears to me," says one of the speakers in the dialogue, "that they who in proof of any assertion rely simply on the weight of authority, without adducing any argument in support of it, act very absurdly: I, on the contrary, wish to be allowed freely to question and freely to answer you without any sort of adulation, as well becomes those who are truly in search of truth." Sentiments like these were of rare occurrence at the close of the sixteenth century, and it is

* Power's Experimental Philosophy. 1663

* Erythraeus, Pinacotheca, vol. i.; Salusbury's Life of Galileo. Nelli, Vita di Gal. Galilei.

to be regretted that Vincenzo hardly lived long enough to witness his idea of a true philosopher splendidly realized in the person of his son. Vincenzo died at an advanced age, in 1591. His family consisted of three sons, Galileo, Michel Angelo, and Benedetto, and the same number of daughters, Giulia, Virginia, and Livia. After Vincenzo's death the chief support of the family devolved upon Galileo, who seems to have assisted them to his utmost power. In a letter to his mother, dated 1600, relative to the intended marriage of his sister Livia with a certain Pompeo Baldi, he agrees to the match, but recommends its temporary postponement, as he was at that time exerting himself to furnish money to his brother Michel Angelo, who had received the offer of an advantageous settlement in Poland. As the sum advanced to his brother, which prevented him from promoting his sister's marriage, did not exceed 200 crowns, it may be inferred that the family were in a somewhat straitened condition. However he promises, as soon as his brother should repay him, "to take measures for the young lady, since she too is bent upon *coming out* to prove the miseries of this world."—As Livia was at the date of this letter in a convent, the last expression seems to denote that she had been destined to take the veil. This proposed marriage never took place, but Livia was afterwards married to Taddeo Galletti: her sister Virginia married Benedetto Landucci. Galileo mentions one of his sisters, (without naming her) as living with him in 1619 at Belloguardo. Michel Angelo is probably the same brother of Galileo who is mentioned by Liceti as having communicated from Germany some observations on natural history.* He finally settled in the service of the Elector of Bavaria; in what situation is not known, but upon his death the Elector granted a pension to his family, who then took up their abode at Munich. On the taking of that city in 1636, in the course of the bloody thirty years' war, which was then raging between the Austrians and Swedes, his widow and four of his children were killed, and every thing which they possessed was either burnt or carried away. Galileo sent for his two nephews, Alberto and a younger brother, to Arcetri near Florence, where

he was then living. These two were then the only survivors of Michel Angelo's family; and many of Galileo's letters about that date contain allusions to the assistance he had been affording them. The last trace of Alberto is on his return into Germany to the Elector, in whose service his father had died. These details include almost every thing which is known of the rest of Vincenzo's family.

Galileo exhibited early symptoms of an active and intelligent mind, and distinguished himself in his childhood by his skill in the construction of ingenious toys and models of machinery, supplying the deficiencies of his information from the resources of his own invention; and he conciliated the universal good-will of his companions by the ready good nature with which he employed himself in their service and for their amusement. It is worthy of observation, that the boyhood of his great follower Newton, whose genius in many respects so closely resembled his own, was marked by a similar talent. Galileo's father was not opulent, as has been already stated: he was burdened with a large family, and was unable to provide expensive instructors for his son; but Galileo's own energetic industry rapidly supplied the want of better opportunities; and he acquired, under considerable disadvantages, the ordinary rudiments of a classical education, and a competent knowledge of the other branches of literature which were then usually studied. His leisure hours were applied to music and drawing; for the former accomplishment he inherited his father's talent, being an excellent performer on several instruments, especially on the lute; this continued to be a favourite recreation during the whole of his life. He was also passionately fond of painting, and at one time he wished to make it his profession: and his skill and judgment of pictures were highly esteemed by the most eminent contemporary artists, who did not scruple to own publicly their deference to young Galileo's criticism.

When he had reached his nineteenth year, his father, becoming daily more sensible of his superior genius, determined, although at a great personal sacrifice, to give him the advantages of an university education. Accordingly, in 1581, he commenced his academical studies in the university of his native town, Pisa, his father at this time intending that

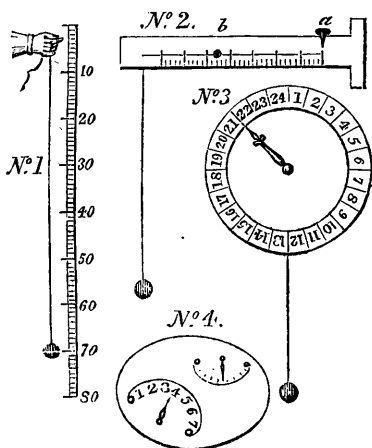
* De his quæ diu vivunt. Patavii, 1612.

he should adopt the profession of medicine. In the matriculation lists at Pisa, he is styled Galileo, the son of Vincenzo Galilei, a Florentine, Scholar in Arts. It is dated 5th November, 1581. Viviani, his pupil, friend, and panegyrist, declares that, almost from the first day of his being enrolled on the lists of the academy, he was noticed for the reluctance with which he listened to the dogmas of the Aristotelian philosophy, then universally taught; and he soon became obnoxious to the professors from the boldness with which he promulgated what they styled his philosophical paradoxes. His early habits of free inquiry were irreconcilable with the mental quietude of his instructors, whose philosophic doubts, when they ventured to entertain any, were speedily lulled by a quotation from Aristotle. Galileo thought himself capable of giving the world an example of a sounder and more original mode of thinking; he felt himself destined to be the founder of a new school of rational and experimental philosophy. Of this we are now securely enjoying the benefits; and it is difficult at this time fully to appreciate the obstacles which then presented themselves to free inquiry: but we shall see, in the course of this narrative, how arduous their struggle was who happily effected this important revolution. The vindictive rancour with which the partisans of the old philosophy never ceased to assail Galileo is of itself a sufficient proof of the prominent station which he occupied in the contest.

Galileo's earliest mechanical discovery, to the superficial observer apparently an unimportant one, occurred during the period of his studies at Pisa. His attention was one day arrested by the vibrations of a lamp swinging from the roof of the cathedral, which, whether great or small, seemed to recur at equal intervals. The instruments then employed for measuring time were very imperfect: Galileo attempted to bring his observation to the test before quitting the church, by comparing the vibrations with the beatings of his own pulse, and his mind being then principally employed upon his intended profession, it occurred to him, when he had further satisfied himself of their regularity by repeated and varied experiments, that the process he at first adopted might be reversed, and that an instrument on this principle might be constructed

employed in ascertaining the rate of the pulse, and its variation from day to day. He immediately carried the idea into execution, and it was for this sole and limited purpose that the first pendulum was constructed. Viviani tells us, that the value of the invention was rapidly appreciated by the physicians of the day, and was in common use in 1654, when he wrote.

Santorio, who was professor of medicine at Padua, has given representations of four different forms of these



instruments, which he calls *pulsilogies*, (*pulsilogias*;) and strongly recommends to medical practitioners.* These instruments seem to have been used in the following manner: No. 1 consists merely of a weight fastened to a string and a graduated scale. The string being gathered up into the hand till the vibrations of the weight coincided with the beatings of the patient's pulse, the length was ascertained from the scale, which, of course, if great, indicated a languid, if shorter, a more lively action. In No. 2 the improvement is introduced of connecting the scale and string, the length of the latter is regulated by the turns of a peg at *a*, and a bead upon the string at *b* showed the measure. No. 3 is still more compact, the string being shortened by winding upon an axle at the back of the dial-plate. The construction of No. 4, which Santorio claims as his own improvement, is not given, but it is probable that the principal index, by its motion, shifted a weight to different distances from the point of suspension, and that the period of vibration

* Comment, in Avicennam. Venetiis, 1625.

was still more accurately adjusted by a smaller weight connected with the second index. Venturi seems to have mistaken the third figure for that of a pendulum clock, as he mentions this as one of the earliest adaptations of Galileo's principle to that purpose*; but it is obvious, from Santorio's description, that it is nothing more than a circular scale, the index showing, by the figure to which it points, the length of string remaining unwound upon the axis. We shall, for the present, postpone the consideration of the invention of pendulum clocks, and the examination of the different claims to the honour of their first construction.

At the time of which we are speaking, Galileo was entirely ignorant of mathematics, the study of which was then at a low ebb, not only in Italy, but in every part of Europe. Commandine had recently revived a taste for the writings of Euclid and Archimedes, and Vieta Tartalea and others had made considerable progress in algebra, Guido Ubaldi and Benedetti had done something towards establishing the principles of statics, which was the only part of mechanics as yet cultivated; but with these inconsiderable exceptions the application of mathematics to the phenomena of nature was scarcely thought of. Galileo's first inducement to acquire a knowledge of geometry arose from his partiality for drawing and music, and from the wish to understand their principles and theory. His father, fearful lest he should relax his medical studies, refused openly to encourage him in this new pursuit; but he connived at the instruction which his son now began to receive in the writings of Euclid, from the tuition of an intimate friend, named Ostilio Ricci, who was one of the professors in the university. Galileo's whole attention was soon directed to the enjoyment of the new sensations thus communicated to him, insomuch that Vincenzo, finding his prognostics verified, began to repent his indirect sanction, and privately requested Ricci to invent some excuse for discontinuing his lessons. But it was fortunately too late; the impression was made and could not be effaced; from that time Hippocrates and Galen lay unheeded before the young physician, and served only to conceal from his father's sight the mathematical volumes on which the whole of his time was really employed. His pro-

gress soon revealed the true nature of his pursuits: Vincenzo yielded to the irresistible predilection of his son's mind, and no longer attempted to turn him from the speculations to which his whole existence was thenceforward abandoned.

After mastering the elementary writers, Galileo proceeded to the study of Archimedes, and, whilst perusing the Hydrostatics of that author, composed his earliest work,—an Essay on the Hydrostatical Balance. In this he explains the method probably adopted by Archimedes for the solution of Hiero's celebrated question*, and shows himself already well acquainted with the true principles of specific gravities. This essay had an immediate and important influence on young Galileo's fortunes, for it introduced him to the approving notice of Guido Ubaldi, then one of the most distinguished mathematicians of Italy. At his suggestion Galileo applied himself to consider the position of the centre of gravity in solid bodies, a choice of subject that sufficiently showed the estimate Ubaldi had formed of his talents; for it was a question on which Commandine had recently written, and which engaged at that time the attention of geometers of the highest order. Galileo tells us himself that he discontinued these researches on meeting with Lucas Valerio's treatise on the same subject. Ubaldi was so much struck with the genius displayed in the essay with which Galileo furnished him, that he introduced him to his brother, the Cardinal Del Monte: by this latter he was mentioned to Ferdinand de' Medici, the reigning Duke of Tuscany, as a young man of whom the highest expectations might be entertained. By the Duke's patronage he was nominated, in 1589, to the lectureship of mathematics at Pisa, being then in his twenty-sixth year. His public salary was fixed at the insignificant sum of sixty crowns annually, but he had an opportunity of greatly adding to his income by private tuition.

CHAPTER III.

Galileo at Pisa—Aristotle—Leonardo da Vinci—Galileo becomes a Copernican—Urstisius—Bruno—Experiments on falling bodies—Galileo at Padua—Thermometer.

No sooner was Galileo settled in his new office than he renewed his inquiries into the phenomena of nature with increased diligence. He instituted a course

* Essai sur les Ouvrages de Leonard da Vinci. Paris, 1797.

of experiments for the purpose of putting to the test the mechanical doctrines of Aristotle, most of which he found unsupported even by the pretence of experience. It is to be regretted that we do not more frequently find detailed his method of experimenting, than occasionally in the course of his dialogues, and it is chiefly upon the references which he makes to the results with which the experiments furnished him, and upon the avowed and notorious character of his philosophy, that the truth of these accounts must be made to depend. Venturi has found several unpublished papers by Galileo on the subject of motion, in the Grand Duke's private library at Florence, bearing the date of 1590, in which are many of the theorems which he afterwards developed in his *Dialogues on Motion*. These were not published till fifty years afterwards, and we shall reserve an account of their contents till we reach that period of his life.

Galileo was by no means the first who had ventured to call in question the authority of Aristotle in matters of science, although he was undoubtedly the first whose opinions and writings produced a very marked and general effect. Nizzoli, a celebrated scholar who lived in the early part of the 16th century, had condemned Aristotle's philosophy, especially his *Physics*, in very unequivocal and forcible terms, declaring that, although there were many excellent truths in his writings, the number was scarcely less of false, useless, and ridiculous propositions*. About the time of Galileo's birth, Benedetti had written expressly in confutation of several propositions contained in Aristotle's *mechanics*, and had expounded in a clear manner some of the doctrines of statical equilibrium.† Within the last forty years it has been established that the celebrated painter Leonardo da Vinci, who died in 1519, amused his leisure hours in scientific pursuits; and many ideas appear to have occurred to him which are to be found in the writings of Galileo at a later date. It is not impossible (though there are probably no means of directly ascertaining the fact) that Galileo may have been acquainted with Leonardo's investigations, although they remained, till very lately, almost unknown to the mathematical world. This supposition is rendered more probable from the fact, that Mazenta, the preserver of Leonardo's manuscripts, was, at the very time of

their discovery, a contemporary student with Galileo at Pisa. Kopernik, or, as he is usually called, Copernicus, a native of Thorn in Prussia, had published his great work, *De Revolutionibus*, in 1543, restoring the knowledge of the true theory of the solar system, and his opinions were gradually and silently gaining ground.

It is not satisfactorily ascertained at what period Galileo embraced the new astronomical theory. Gerard Voss attributes his conversion to a public lecture of Mæstlin, the instructor of Kepler; and later writers (among whom is Laplace) repeat the same story, but without referring to any additional sources of information, and in most instances merely transcribing Voss's words, so as to shew indisputably whence they derived their account. Voss himself gives no authority, and his general inaccuracy makes his mere word not of much weight. The assertion appears, on many accounts, destitute of much probability. If the story were correct, it seems likely that some degree of acquaintance, if not of friendly intercourse, would have subsisted between Mæstlin, and his supposed pupil, such as in fact we find subsisting between Mæstlin and his acknowledged pupil Kepler, the devoted friend of Galileo; but, on the contrary, we find Mæstlin writing to Kepler himself of Galileo as an entire stranger, and in the most disparaging terms. If Mæstlin could lay claim to the honour of so celebrated a disciple, it is not likely that he could fail so entirely to comprehend the distinction it must confer upon himself as to attempt diminishing it by underrating his pupil's reputation. There is a passage in Galileo's works which more directly controverts the claim advanced for Mæstlin, although Salusbury, in his life of Galileo, having apparently an imperfect recollection of its tenor, refers to this very passage in confirmation of Voss's statement. In the second part of the dialogue on the Copernican system, Galileo makes Sagredo, one of the speakers in it, give the following account:—"Being very young, and having scarcely finished my course of philosophy, which I left off as being set upon other employments, there chanced to come into these parts a certain foreigner of Rostoch, whose name, as I remember, was *Christianus Urstius*, a follower of Copernicus, who, in an academy, gave two or three lectures upon this point, to whom many flocked as auditors; but I, thinking they went

* *Antibarbarus Philosophicus*. Francofurti, 1674.

† *Speculationum Liber*. Venediæ, 1595.

more for the novelty of the subject than otherwise, did not go to hear him; for I had concluded with myself that that opinion could be no other than a solemn madness; and questioning some of those who had been there, I perceived they all made a jest thereof, except one, who told me that the business was not altogether to be laughed at: and because the man was reputed by me to be very intelligent and wary, I repented that I was not there, and began from that time forward, as oft as I met with any one of the Copernican persuasion, to demand of them if they had been always of the same judgment. Of as many as I examined I found not so much as one who told me not that he had been a long time of the contrary opinion, but to have changed it for this, as convinced by the strength of the reasons proving the same; and afterwards questioning them one by one, to see whether they were well possessed of the reasons of the other side, I found them all to be very ready and perfect in them, so that I could not truly say that they took this opinion out of ignorance, vanity, or to show the acuteness of their wits. On the contrary, of as many of the Peripatetics and Ptolemeans as I have asked, (and out of curiosity I have talked with many,) what pains they had taken in the book of Copernicus, I found very few that had so much as superficially perused it, but of those who I thought had understood the same, not one: and, moreover, I have inquired amongst the followers of the Peripatetic doctrine, if ever any of them had held the contrary opinion, and likewise found none that had. Whereupon, considering that there was no man who followed the opinion of Copernicus that had not been first on the contrary side, and that was not very well acquainted with the reasons of Aristotle and Ptolemy, and, on the contrary, that there was not one of the followers of Ptolemy that had ever been of the judgment of Copernicus, and had left that to embrace this of Aristotle;—considering, I say, these things, I began to think that one who leaveth an opinion imbued with his milk and followed by very many, to take up another, owned by very few, and denied by all the schools, and that really seems a great paradox, must needs have been moved, not to say forced, by more powerful reasons. For this cause I am become very curious to dive, as they say, into the bottom of this business." It seems improbable that Galileo should think

it worth while to give so detailed an account of the birth and growth of opinion in any one besides himself; and although Sagredo is not the personage who generally in the dialogue represents Galileo, yet as the real Sagredo was a young nobleman, a pupil of Galileo himself, the account cannot refer to him. The circumstance mentioned of the intermission of his philosophical studies, though in itself trivial, agrees very well with Galileo's original medical destination. Urstisius is not a fictitious name, as possibly Salusbury may have thought, when alluding to this passage; he was mathematical professor at Bâle, about 1567, and several treatises by him are still extant. In 1568 Voss informs us that he published some new questions on Purbach's Theory of the Planets. He died at Bâle in 1588, when Galileo was about twenty-two years old.

It is not unlikely that Galileo also, in part, owed his emancipation from popular prejudices to the writings of Giordano Bruno, an unfortunate man, whose unsparing boldness in exposing fallacies and absurdities was rewarded by a judicial murder, and by the character of heretic and infidel, with which his executioners endeavoured to stigmatize him for the purpose of covering over their own atrocious crime. Bruno was burnt at Rome in 1600, but not, as Montucla supposes, on account of his "*Spaccio della Bestia trionfante*." The title of this book has led him to suppose that it was directed against the church of Rome, to which it does not in the slightest degree relate. Bruno attacked the fashionable philosophy alternately with reason and ridicule, and numerous passages in his writings, tedious and obscure as they generally are, show that he had completely outstripped the age in which he lived. Among his astronomical opinions, he believed that the universe consisted of innumerable systems of suns with assemblages of planets revolving round each of them, like our own earth, the smallness of which, alone, prevented their being observed by us. He remarked further, "that it is by no means improbable that there are yet other planets revolving round our own sun, which we have not yet noticed, either on account of their minute size or too remote distance from us." He declined asserting that all the apparently fixed stars are really so, considering this as not sufficiently proved, "because at such enormous distances the motions become difficult to estimate, and it is only by

long observation that we can determine if any of these move round each other, or what other motions they may have." He ridiculed the Aristotelians in no very measured terms—"They harden themselves, and heat themselves, and embroil themselves for Aristotle; they call themselves his champions, they hate all but Aristotle's friends, they are ready to live and die for Aristotle, and yet they do not understand so much as the titles of Aristotle's chapters." And in another place he introduces an Aristotelian inquiring, "Do you take Plato for an ignoramus—Aristotle for an ass?" to whom he answers, "My son, I neither call them asses, nor you mules,—them baboons,* nor you apes,—as you would have me: I told you that I esteem them the heroes of the world, but I will not credit them without sufficient reason; and if you were not both blind and deaf, you would understand that I must disbelieve their absurd and contradictory assertions."* Bruno's works, though in general considered those of a visionary and madman, were in very extensive circulation, probably not the less eagerly sought after from being included among the books prohibited by the Romish church; and although it has been reserved for later observations to furnish complete verification of his most daring speculations, yet there was enough, abstractedly taken, in the wild freedom of his remarks, to attract a mind like Galileo's; and it is with more satisfaction that we refer the formation of his opinions to a man of undoubted though eccentric genius, like Bruno, than to such as Maestlin, who, though a diligent and careful observer, seems seldom to have taken any very enlarged views of the science on which he was engaged.

With a few exceptions similar to those above mentioned, the rest of Galileo's contemporaries well deserved the contemptuous epithet which he fixed on them of Paper Philosophers, for, to use his own words, in a letter to Kepler on this subject, "this sort of men fancied philosophy was to be studied like the *Æneid* or *Odyssey*, and that the true reading of nature was to be detected by the collation of texts." Galileo's own method of philosophizing was widely different; seldom omitting to bring with every new assertion the test of experiment, either directly in confirmation of it, or tending to show its probability and consistency. We have already seen that

he engaged in a series of experiments to investigate the truth of some of Aristotle's positions. As fast as he succeeded in demonstrating the falsehood of any of them, he denounced them from his professorial chair with an energy and success which irritated more and more against him the other members of the academic body.

There seems something in the stubborn opposition which he encountered in establishing the truth of his mechanical theorems, still more stupidly absurd than in the ill will to which, at a later period of his life, his astronomical opinions exposed him: it is intelligible that the vulgar should withhold their assent from one who pretended to discoveries in the remote heavens, which few possessed instruments to verify, or talents to appreciate; but it is difficult to find terms for stigmatizing the obdurate folly of those who preferred the evidence of their books to that of their senses, in judging of phenomena so obvious as those, for instance, presented by the fall of bodies to the ground. Aristotle had asserted, that if two different weights of the same material were let fall from the same height, the heavier one would reach the ground sooner than the other, in the proportion of their weights. The experiment is certainly not a very difficult one, but nobody thought of that method of argument, and consequently this assertion had been long received, upon his word, among the axioms of the science of motion. Galileo ventured to appeal from the authority of Aristotle to that of his own senses, and maintained that, with the exception of an inconsiderable difference, which he attributed to the disproportionate resistance of the air, they would fall in the same time. The Aristotelians ridiculed and refused to listen to such an idea. Galileo repeated his experiments in their presence from the famous leaning tower at Pisa: and with the sound of the simultaneously falling weights still ringing in their ears, they could persist in gravely maintaining that a weight of ten pounds would reach the ground in a tenth part of the time taken by one of a single pound, because they were able to quote chapter and verse in which Aristotle assures them that such is the fact. A temper of mind like this could not fail to produce ill will towards him who felt no scruples in exposing their wilful folly; and the watchful malice of these men soon found the means of making Galileo desirous of quitting

* De l'Infinito Universo. Dial. 3. La Cena de le Genere 1584.

his situation at Pisa. Don Giovanni de' Medici, a natural son of Cosmo, who possessed a slight knowledge of mechanics on which he prided himself, had proposed a contrivance for cleansing the port of Leghorn, on the efficiency of which Galileo was consulted. His opinion was unfavourable, and the violence of the inventor's disappointment, (for Galileo's judgment was verified by the result,) took the somewhat unreasonable direction of hatred towards the man whose penetration had foreseen the failure. Galileo's situation was rendered so unpleasant by the machinations of this person, that he decided on accepting overtures elsewhere, which had already been made to him; accordingly, under the negotiation of his staunch friend Guido Ubaldi, and with the consent of Ferdinand, he procured from the republic of Venice a nomination for six years to the professorship of mathematics in the university of Padua, whither he removed in September 1592.

Galileo's predecessor in the mathematical chair at Padua was Moleti, who died in 1588, and the situation had remained unfilled during the intervening four years. This seems to show that the directors attributed but little importance to the knowledge which it was the professor's duty to impart. This inference is strengthened by the fact, that the amount of the annual salary attached to it did not exceed 180 florins, whilst the professors of philosophy and civil law, in the same university, were rated at the annual stipends of 1400 and 1680 florins.* Galileo joined the university about a year after its triumph over the Jesuits, who had established a school in Padua about the year 1542, and, increasing yearly in influence, had shown symptoms of a design to get the whole management of the public education into the hands of their own body.† After several violent disputes it was at length decreed by the Venetian senate, in 1591, that no Jesuit should be allowed to give instruction at Padua in any of the sciences professed in the university. It does not appear that after this decree they were again troublesome to the university, but this first decree against them was followed, in 1606, by a second more peremptory, which banished them entirely from the Venetian territory. Galileo would of course find his fellow-professors much embittered

against that society, and would naturally feel inclined to make common cause with them, so that it is not unlikely that the hatred which the Jesuits afterwards bore to Galileo on personal considerations, might be enforced by their recollection of the university to which he had belonged.

Galileo's writings now began to follow each other with great rapidity, but he was at this time apparently so careless of his reputation, that many of his works and inventions, after a long circulation in manuscript among his pupils and friends, found their way into the hands of those who were not ashamed to publish them as their own, and to denounce Galileo's claim to the authorship as the pretence of an impudent plagiarist. He was, however, so much beloved and esteemed by his friends, that they vied with each other in resenting affronts of this nature offered to him, and in more than one instance he was relieved, by their full and triumphant answers, from the trouble of vindicating his own character.

To this epoch of Galileo's life may be referred his re-invention of the thermometer. The original idea of this useful instrument belongs to the Greek mathematician Hero; and Santorio himself, who has been named as the inventor by Italian writers, and at one time claimed it himself, refers it to him. In 1638, Castelli wrote to Cesarni that "he remembered an experiment shown to him more than thirty-five years back by Galileo, who took a small glass bottle, about the size of a hen's egg, the neck of which was twenty-two inches long, and as narrow as a straw. Having well heated the bulb in his hands, and then introducing its mouth into a vessel in which was a little water, and withdrawing the heat of his hand from the bulb, the water rose in the neck of the bottle more than eleven inches above the level in the vessel, and Galileo employed this principle in the construction of an instrument for measuring heat and cold."* In 1613, a Venetian nobleman named Sagredo, who has been already mentioned as Galileo's friend and pupil, writes to him in the following words: "I have brought the instrument which you invented for measuring heat into several convenient and perfect forms, so that the difference of temperature between two rooms is seen as far as 100 de-

* Riccioboni, *Commentarii de Gymnasio Patavino*, 1598.

† Nelli.

grees."* This date is anterior to the claims both of Santorio and Drebbel, a Dutch physician, who was the first to introduce it into Holland.

Galileo's thermometer, as we have just seen, consisted merely of a glass tube ending in a bulb, the air in which, being partly expelled by heat, was replaced by water from a glass into which the open end of the tube was plunged, and the different degrees of temperature were indicated by the expansion of the air which yet remained in the bulb, so that the scale would be the reverse of that of the thermometer now in use, for the water would stand at the highest level in the coldest weather. It was, in truth, a barometer also, in consequence of the communication between the tube and external air, although Galileo did not intend it for this purpose, and when he attempted to determine the relative weight of the air, employed a contrivance still more imperfect than this rude barometer would have been. A passage among his posthumous fragments intimates that he subsequently used spirit of wine instead of water.

Viviani attributes an improvement of this imperfect instrument, but without specifying its nature, to Ferdinand II., a pupil and subsequent patron of Galileo, and, after the death of his father Cosmo, reigning duke of Florence. It was still further improved by Ferdinand's younger brother, Leopold de' Medici, who invented the modern process of expelling all the air from the tube by boiling the spirit of wine in it, and of hermetically sealing the end of the tube, whilst the contained liquid is in this expanded state, which deprived it of its barometrical character, and first made it an accurate thermometer. The final improvement was the employment of mercury instead of spirit of wine, which is recommended by Lana so early as 1670, on account of its equable expansion.† For further details on the history and use of this instrument, the reader may consult the Treatises on the THERMOMETER and PYROMETER.

CHAPTER IV.

Astronomy before Copernicus—Fracastoro — Bucon — Kepler — Galileo's Treatise on the Sphere.

THIS period of Galileo's lectureship at Padua derives interest from its inclu-

ding the first notice which we find of his having embraced the doctrines of the Copernican astronomy. Most of our readers are aware of the principles of the theory of the celestial motions which Copernicus restored; but the number of those who possess much knowledge of the cumbrous and unwieldy system which it superseded is perhaps more limited. The present is not a fit opportunity to enter into many details respecting it; these will find their proper place in the History of Astronomy; but a brief sketch of its leading principles is necessary to render what follows intelligible.

The earth was supposed to be immoveably fixed in the centre of the universe, and immediately surrounding it the atmospheres of air and fire, beyond which the sun, moon, and planets, were thought to be carried round the earth, fixed each to a separate orb or heaven of solid but transparent matter. The order of distance in which they were supposed to be placed with regard to the central earth was as follows: The Moon, Mercury, Venus, The Sun, Mars, Jupiter, and Saturn. It became a question in the ages immediately preceding Copernicus, whether the Sun was not nearer the Earth than Mercury, or at least than Venus; and this question was one on which the astronomical theorists were then chiefly divided.

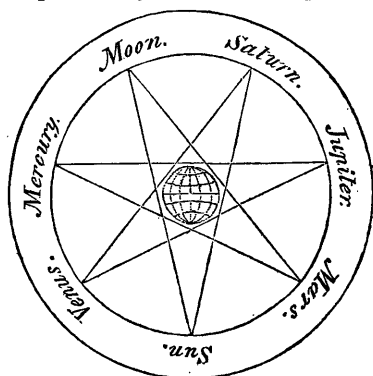
We possess at this time a curious record of a former belief in this arrangement of the Sun and planets, in the order in which the days of the week have been named from them. According to the dreams of Astrology, each planet was supposed to exert its influence in succession, reckoning from the most distant down to the nearest, over each hour of the twenty-four. The planet which was supposed to predominate over the first hour, gave its name to that day.* The general reader will trace this curious fact more easily with the French or Latin names than with the English, which have been translated into the titles of the corresponding Saxon deities. Placing the Sun and planets in the following order, and beginning, for instance, with Monday, or the Moon's day; Saturn ruled the second hour of that day, Jupiter the third, and so round till we come again and again to the Moon on the 8th, 15th, and 22d hours; Saturn ruled the 23d,

* Venturi, *Memorie e Lettere di Gal. Galilei*, Modena, 1821.

† *Prodromo all' Arte Maestra*, Brescia, 1670.

* Dion Cassius, lib. 37.

Jupiter the 24th, so that the next day would be the day of Mars, or, as the Saxons translated it, Tuisco's day, or Tuesday. In the same manner the following days would belong respectively to Mercury or Woden, Jupiter or Thor, Venus or Freia, Saturn or Seater, the Sun, and again the Moon. In this manner the whole week will be found to complete the cycle of the seven planets.



The other stars were supposed to be fixed in an outer orb, beyond which were two crystalline spheres, (as they were called,) and on the outside of all, the *primum mobile* or *first moveable*, which sphere was supposed to revolve round the earth in twenty-four hours, and by its friction, or rather, as most of the philosophers of that day chose to term it, by the sort of heavenly influence which it exercised on the interior orbs, to carry them round with a similar motion. Hence the diversity of day and night. But beside this principal and general motion, each orb was supposed to have one of its own, which was intended to account for the apparent changes of position of the planets with respect to the fixed stars and to each other. This supposition, however, proving insufficient to account for all the irregularities of motion observed, two hypotheses were introduced.—First, that to each planet belonged several concentric spheres or heavens, casing each other like the coats of an onion, and, secondly, that the centres of these solid spheres, with which the planet revolved, were placed in the circumference of a secondary revolving sphere, the centre of which secondary sphere was situated at the earth. They thus acquired the names of Eccentrics or Epicycles, the latter word signifying a circle upon a circle. The whole art of astronomers was then directed towards inventing and

combining different eccentric and epicyclical motions, so as to represent with tolerable fidelity the ever varying phenomena of the heavens. Aristotle had lent his powerful assistance in this, as in other branches of natural philosophy, in enabling the false system to prevail against and obliterate the knowledge of the true, which, as we gather from his own writings, was maintained by some philosophers before his time. Of these ancient opinions, only a few traces now remain, principally preserved in the works of those who were adverse to them. Archimedes says expressly that Aristarchus of Samos, who lived about 300 B. C., taught the immobility of the sun and stars, and that the earth is carried round the central sun.* Aristotle's words are: "Most of those who assert that the whole concave is finite, say that the earth is situated in the middle point of the universe: those who are called Pythagoreans, who live in Italy, are of a contrary opinion. For they say that fire is in the centre, and that the earth, which, according to them, is one of the stars, occasions the change of day and night by its own motion, with which it is carried about the centre." It might be doubtful, upon this passage alone, whether the Pythagorean theory embraced more than the diurnal motion of the earth, but a little farther, we find the following passage: "Some, as we have said, make the earth to be one of the stars: others say that it is placed in the centre of the Universe, and revolves on a central axis."† From

* The pretended translation by Roberval of an Arabic version of Aristarchus, "De Systemate Mundi," in which the Copernican system is fully developed, is spurious. Menage asserts this in his observations on Diogen. Laert. lib. 8, sec. 85, tom. ii., p. 389. (Ed. Amst. 1692.) The commentary contains many authorities well worth consulting. Delambre, Histoire de l'Astronomie, infers it from its not containing some opinions which Archimedes tells us were held by Aristarchus. A more direct proof may be gathered from the following blunder of the supposed translator. Astronomers had been long aware that the earth in different parts of her orbit is at different distances from the sun. Roberval wished to claim for Aristarchus the credit of having known this, and introduced into his book, not only the mention of the fact, but an explanation of its cause. Accordingly he makes Aristarchus give a reason "why the sun's apogee (or place of greatest distance from the earth) must always be at the north summer solstice." In fact, it was there, or nearly so, in Roberval's time, and he knew not but that it had always been there. It is however moveable, and, when Aristarchus lived, was nearly half way between the solstices and equinoxes. He therefore would hardly have given a reason for the necessity of a phenomenon of which, if he observed anything on the subject, he must have observed the contrary. The change in the obliquity of the earth's axis to the ecliptic was known in the time of Roberval, and he accordingly has introduced the proper value which it had in Aristarchus's time.

which, in conjunction with the former extract, it very plainly appears that the Pythagoreans maintained both the diurnal and annual motions of the earth.

Some idea of the supererogatory labour entailed upon astronomers by the adoption of the system which places the earth in the centre, may be formed in a popular manner by observing, in passing through a thickly planted wood, in how complicated a manner the relative positions of the trees appear at each step to be continually changing, and by considering the difficulty with which the laws of their apparent motions could be traced, if we were to attempt to refer these changes to a real motion of the trees instead of the traveller. The apparent complexity in the heavens is still greater than in the case suggested; because, in addition to the earth's motions, with which all the stars appear to be impressed, each of the planets has also a real motion of its own, which of course greatly contributes to perplex and complicate the general appearances. Accordingly the heavens rapidly became, under this system,

"With centric and eccentric scribbled o'er,
Cycle and epicycle, orb in orb;"*

crossing and penetrating each other in every direction. Maestlin has given a concise enumeration of the principal orbs which belonged to this theory. After warning the readers that "they are not mere fictions which have nothing to correspond with them out of the imagination, but that they exist really, and bodily in the heavens,"† he describes seven principal spheres belonging to each planet, which he classes as Eccentrics, Epicycles, and Concentrepiques, and explains their use in accounting for the planet's revolutions, motions of the apogee, and nodes, &c. &c. In what manner this multitude of solid and crystalline orbs were secured from injuring or interfering with each other was not very closely inquired into.

The reader will cease to expect any very intelligible explanation of this and numberless other difficulties which belong to this unwieldy machinery when he is introduced to the reasoning by which it was upheld. Gerolamo Fra-

castoro, who lived in the sixteenth century, writes in the following terms, in his work entitled *Homocentrica*, (certainly one of the best productions of the day,) in which he endeavours to simplify the necessary apparatus, and to explain all the phenomena (as the title of his book implies) by concentric spheres round the earth. "There are some, not only of the ancients but also among the moderns, who believe that the stars move freely without any such agency; but it is difficult to conceive in what manner they have imbued themselves with this notion, *since not only reason, but the very senses, inform us that all the stars are carried round fastened to solid spheres.*" What ideas Fracastoro entertained of the evidence of the "senses" it is not now easy to guess, but he goes on to give a specimen of the "reasoning" which appeared to him so incontrovertible. "The planets are observed to move one while forwards, then backwards, now to the right, now to the left, quicker and slower by turns; which variety is consistent with a compound structure like that of an animal, which possesses in itself various springs and principles of action, but is totally at variance with our notion of a simple and undecaying substance like the heavens and heavenly bodies. For that which is simple, is altogether single, and singleness is of one only nature, and one nature can be the cause of only one effect; and therefore it is altogether impossible that the stars of themselves should move with such variety of motion. And besides, if the stars move by themselves, they either move in an empty space, or in a fluid medium like the air. But there cannot be such a thing as empty space, and if there were such a medium, the motion of the star would occasion condensation and rarefaction in different parts of it, which is the property of corruptible bodies and where they exist some violent motion is going on; but the heavens are incorruptible and are not susceptible of violent motion, and hence, and from many other similar reasons, any one who is not obstinate may satisfy himself that the stars cannot have any independent motion."

Some persons may perhaps think that arguments of this force are unnecessarily dragged from the obscurity to which they are now for the most part happily consigned; but it is essential, in order to set Galileo's character and merits in the true light, to show how low at this

* Paradise Lost, b. viii. v. 83.

† Itaque tam circulos primi motus quam orbes secundorum mobilium revera in cœlesti corpore esse concludimus, &c. Non ergo sunt mera signa, quibus extra mentem nihil correspondeat. M. Maestlini, De Astronomiæ Hypothesibus disputatio, Heidelbergæ, 1592.

time philosophy had fallen. For we shall form a very inadequate notion of his powers and deserts if we do not contemplate him in the midst of men who, though of undoubted talent and ingenuity, could so far bewilder themselves as to mistake such a string of unmeaning phrases for argument: we must reflect on the difficulty every one experiences in delivering himself from the erroneous impressions of infancy, which will remain stamped upon the imagination in spite of all the efforts of matured reason to erase them, and consider every step of Galileo's course as a triumph over difficulties of a like nature. We ought to be fully penetrated with this feeling before we sit down to the perusal of his works, every line of which will then increase our admiration of the penetrating acuteness of his invention and unswerving accuracy of his judgment. In almost every page we discover an allusion to some new experiment, or the germ of some new theory; and amid all this wonderful fertility it is rarely indeed that we find the exuberance of his imagination seducing him from the rigid path of philosophical induction. This is the more remarkable as he was surrounded by friends and contemporaries of a different temperament and much less cautious disposition. A disadvantageous contrast is occasionally furnished even by the sagacious Bacon, who could so far deviate from the sound principles of inductive philosophy, as to write, for instance, in the following strain, bordering upon the worst manner of the Aristotelians:—"Motion in a circle has no limit, and seems to emanate from the appetite of the body, which moves only for the sake of moving, and that it may follow itself and seek its own embraces, and put in action and enjoy its own nature, and exercise its peculiar operation: on the contrary, motion in a straight line seems transitory, and to move towards a limit of cessation or rest, and that it may reach some point, and then put off its motion."* Bacon rejected all the machinery of the *primum mobile* and the solid spheres, the eccentrics and the epicycles, and carried his dislike of these doctrines so far as to assert that nothing short of their gross absurdity could have driven theorists to the extravagant supposition of the motion of the earth, which, said he, "we

know to be most false."* Instances of extravagant suppositions and premature generalizations are to be found in almost every page of his other great contemporary, Kepler.

It is with pain that we observe Delambre taking every opportunity, in his admirable *History of Astronomy*, to undervalue and sneer at Galileo, seemingly for the sake of elevating the character of Kepler, who appears his principal favourite, but whose merit as a philosopher cannot safely be brought into competition with that of his illustrious contemporary. Delambre is especially dissatisfied with Galileo, for taking no notice, in his "*System of the World*," of the celebrated laws of the planetary motions which Kepler discovered, and which are now inseparably connected with his name. The analysis of Newton and his successors has now identified those apparently mysterious laws with the general phenomena of motion, and has thus entitled them to an attention of which, before that time, they were scarcely worthy; at any rate not more than is at present the empirical law which includes the distances of all the planets from the sun (roughly taken) in one algebraical formula. The observations of Kepler's day were scarcely accurate enough to prove that the relations which he discovered between the distances of the planets from the sun and the periods of their revolutions around him were necessarily to be received as demonstrated truths; and Galileo surely acted most prudently and philosophically in holding himself altogether aloof from Kepler's fanciful devices and numeral coninnities, although, with all the extravagance, they possessed much of the genius of the Platonic reveries, and although it did happen that Galileo, by systematically avoiding them, failed to recognise some important truths. Galileo probably was thinking of those very laws, when he said of Kepler, "He possesses a bold and free genius, perhaps too much so; but his mode of philosophizing is widely different from mine." We shall have further occasion in the sequel to recognise the justice of this remark.

In the treatise on the Sphere which bears Galileo's name, and which, if he be indeed the author of it, was composed during the early part of his residence at

* *Opuscula Philosophica, Thema Cœli.*

* "*Nobis constat falsissimum esse.*" *De Aug. Sci-*
ant lib. iii. c. 2. 1623.

Padua, he also adopts the Ptolemaic system, placing the earth immoveable in the centre, and adducing against its motion the usual arguments, which in his subsequent writings he ridicules and refutes. Some doubts have been expressed of its authenticity; but, however this may be, we have it under Galileo's own hand that he taught the Ptolemaic system, in compliance with popular prejudices, for some time after he had privately become a convert to the contrary opinions. In a letter, apparently the first which he wrote to Kepler, dated from Padua, 1597, he says, acknowledging the receipt of Kepler's *Mysterium Cosmographicum*, "I have as yet read nothing beyond the preface of your book, from which however I catch a glimpse of your meaning, and feel great joy on meeting with so powerful an associate in the pursuit of truth, and consequently such a friend to truth itself, for it is deplorable that there should be so few who care about truth, and who do not persist in their perverse mode of philosophizing; but as this is not the fit time for lamenting the melancholy condition of our times, but for congratulating you on your elegant discoveries in confirmation of the truth, I shall only add a promise to peruse your book dispassionately, and with a conviction that I shall find in it much to admire. *This I shall do the more willingly because many years ago I became a convert to the opinions of Copernicus,** and by that theory have succeeded in fully explaining many phenomena, which on the contrary hypothesis are altogether inexplicable. I have arranged many arguments and confutations of the opposite opinions, which however I have not yet dared to publish, fearing the fate of our master Copernicus, who, although he has earned immortal fame among a few, yet by an infinite number (for so only can the number of fools be measured) is exploded and derided. If there were many such as you, I would venture to publish my speculations; but, since that is not so, I shall take time to consider of it." This interesting letter was the beginning of the friendship of these two great men, which lasted uninterruptedly till 1632, the date of Kepler's death. That extraordinary genius never omitted an opportunity of testifying his admiration of Galileo,

although there were not wanting persons envious of their good understanding, who exerted themselves to provoke coolness and quarrel between them. Thus Brutius writes to Kepler in 1602*: "Galileo tells me he has written to you, and has got your book, which however he denied to Magini, and I abused him for praising you with too many qualifications. I know it to be a fact that, both in his lectures, and elsewhere, he is publishing your inventions as his own; but I have taken care, and shall continue to do so, that all this shall redound not to his credit but to yours." The only notice which Kepler took of these repeated insinuations, which appear to have been utterly groundless, was, by renewed expressions of respect and admiration, to testify the value he set upon his friend and fellow-labourer in philosophy.

CHAPTER V.

Galileo re-elected Professor at Padua—New star—Compass of proportion—Capra—Gilbert—Proposals to return to Pisa—Lost writings—Cavalieri.

GALILEO'S reputation was now rapidly increasing: his lectures were attended by many persons of the highest rank; among whom were the Archduke Ferdinand, afterwards Emperor of Germany, the Landgrave of Hesse, and the Princes of Alsace and Mantua. On the expiration of the first period for which he had been elected professor, he was rechosen for a similar period, with a salary increased to 320 florins. The immediate occasion of this augmentation is said by Fabroni†, to have arisen out of the malice of an ill wisher of Galileo, who, hoping to do him disservice, apprized the senate that he was not married to Marina Gamba, then living with him, and the mother of his son Vincenzo. Whether or not the senate might consider themselves entitled to inquire into the morality of his private life, it was probably from a wish to mark their sense of the informer's impertinence, that they returned the brief answer, that "if he had a family to provide for, he stood the more in need of an increased stipend."

During Galileo's residence at Padua, and, according to Viviani's intimation, towards the thirtieth year of his age, that is to say in 1594, he experienced

* Id autem eo libentius faciam, quod in Copernici sententiam multis abhinc annis venerim.—Kepl. Epistolæ.

† Kepleri Epistolæ.

ma. recs. Italorum Illustrum.

the first attack of a disease which pressed heavily on him for the rest of his life. He enjoyed, when a young man, a healthy and vigorous constitution, but chancing to sleep one afternoon near an open window, through which was blowing a current of air cooled artificially by the fall of water, the consequences were most disastrous to him. He contracted a sort of chronic complaint, which showed itself in acute pains in his limbs, chest, and back, accompanied with frequent hæmorrhages and loss of sleep and appetite; and this painful disorder thenceforward never left him entirely, but recurred intermittingly, with greater or less violence, as long as he lived. Others of the party did not even escape so well, but died shortly after committing this imprudence.

In 1604, the attention of astronomers was called to the contemplation of a new star, which appeared suddenly with great splendour in the constellation *Serpentarius*, or *Ophiuchus*, as it is now more commonly called. Maestlin, who was one of the earliest to notice it, relates his observations in the following words: "How wonderful is this new star! I am certain that I did not see it before the 29th of September, nor indeed, on account of several cloudy nights, had I a good view till the 6th of October. Now that it is on the other side of the sun, instead of surpassing Jupiter as it did, and almost rivalling Venus, it scarcely matches the *Cor Leonis*, and hardly surpasses Saturn. It continues however to shine with the same bright and strongly sparkling light, and changes its colours almost with every moment; first tawny, then yellow, presently purple and red, and, when it has risen above the vapours, most frequently white." This was by no means an unprecedented phenomenon; and the curious reader may find in Riccioli* a catalogue of the principal new stars which have at different times appeared. There is a tradition of a similar occurrence as early as the times of the Greek astronomer Hipparchus, who is said to have been stimulated by it to the formation of his catalogue of the stars; and only thirty-two years before, in 1572, the same remarkable phenomenon in the constellation Cassiopeia was mainly instrumental in detaching the celebrated Tycho Brahe from the chemical studies, which till then divided his attention with astronomy. Tycho's star disappeared at the

end of two years; and at that time Galileo was a child. On the present occasion, he set himself earnestly to consider the new phenomenon, and embodied the results of his observations in three lectures, which have been unfortunately lost. Only the exordium of the first has been preserved: in this he reproaches his auditors with their general insensibility to the magnificent wonders of creation daily exposed to their view, in no respect less admirable than the new prodigy, to hear an explanation of which they had hurried in crowds to his lecture room. He showed, from the absence of parallax, that the new star could not be, as the vulgar hypothesis represented, a mere meteor engendered in our atmosphere and nearer the earth than the moon, but must be situated among the most remote heavenly bodies. This was inconceivable to the Aristotelians, whose notions of a perfect, simple, and unchangeable sky were quite at variance with the introduction of any such new body; and we may perhaps consider these lectures as the first public declaration of Galileo's hostility to the old Ptolemaic and Aristotelian astronomy.

In 1606 he was reappointed to the lectureship, and his salary a second time increased, being raised to 520 florins. His public lectures were at this period so much thronged that the ordinary place of meeting was found insufficient to contain his auditors, and he was on several occasions obliged to adjourn to the open air,—even from the school of medicine, which was calculated to contain one thousand persons.

About this time he was considerably annoyed by a young Milanese, of the name of Balthasar Capra, who pirated an instrument which Galileo had invented some years before, and had called the geometrical and military compass. The original offender was a German named Simon Mayer, whom we shall meet with afterwards arrogating to himself the merit of one of Galileo's astronomical discoveries; but on this occasion, as soon as he found Galileo disposed to resent the injury done to him, he hastily quitted Italy, leaving his friend Capra to bear alone the shame of the exposure which followed. The instrument is of simple construction, consisting merely of two straight rulers, connected by a joint; so that they can be set to any required angle. This simple and useful instrument, now called

* *Almagestum Novum*, vol. i.

case of mathematical instruments. Instead of the trigonometrical and logarithmic lines which are now generally engraved upon it, Galileo's compass merely contained, on one side, three pairs of lines, divided in simple, duplicate, and triplicate proportion, with a fourth pair on which were registered the specific gravities of several of the most common metals. These were used for multiplications, divisions, and the extraction of roots; for finding the dimensions of equally heavy balls of different materials, &c. On the other side were lines contrived for assisting to describe any required polygon on a given line; for finding polygons of one kind equal in area to those of another; and a multitude of other similar operations useful to the practical engineer.

Unless the instrument, which is now called Gunter's scale, be much altered from what it originally was, it is difficult to understand on what grounds Salusbury charges Gunter with plagiarism from Galileo's Compass. He declares that he has closely compared the two, and can find no difference between them.* There has also been some confusion, by several writers, between this instrument and what is now commonly called the Proportional Compass. The latter consists of two slips of metal pointed at each end, and connected by a pin which, sliding in a groove through both, can be shifted to different positions. Its use is to find proportional lines; for it is obvious that the openings measured by each pair of legs will be in the same proportion in which the slips are divided by the centre. The divisions usually marked on it are calculated for finding the submultiples of straight lines, and the chords of submultiple arcs. Montucla has mentioned this mistake of one instrument for the other, and charges Voltaire with the more inexcusable error of confounding Galileo's with the Mariner's Compass. He refers to a treatise by Hulsius for his authority in attributing the Proportional Compass to Burg, a German astronomer of some celebrity. Horcher also has been styled the inventor; but he did no more than describe its form and application. In the frontispiece of his book is an engraving of this compass exactly similar to those which are now used.† To the description which Galileo published of his compass, he added

a short treatise on the method of measuring heights and distances with the quadrant and plumb line. The treatise, which is printed by itself at the end of the first volume of the Padua edition of Galileo's works, contains nothing more than the demonstrations belonging to the same operations. They are quite elementary, and contain little or nothing that was new even at that time.

Such an instrument as Galileo's Compass was of much more importance before the grand discovery of logarithms than it can now be considered: however it acquires an additional interest from the value which he himself set on it. In 1607, Capra, at the instigation of Mayer, published as his own invention what he calls the proportional hoop, which is a mere copy of Galileo's instrument. This produced from Galileo a long essay, entitled "A Defence of Galileo against the Calumnies and Impostures of Balthasar Capra." His principal complaint seems to have been of the misrepresentations which Capra had published of his lectures on the new star already mentioned, but he takes occasion, after pointing out the blunders and falsehoods which Capra had committed on that occasion, to add a complete proof of his piracy of the geometrical compass. He showed, from the authenticated depositions of workmen, and of those for whom the instruments had been fabricated, that he had devised them as early as the year 1597, and had explained their construction and use both to Balthasar himself and to his father Aurelio Capra, who was then residing in Padua. He gives, in the same essay, the minutes of a public meeting between himself and Capra, in which he proved, to the satisfaction of the university, that wherever Capra had endeavoured to introduce into his book propositions which were not to be met with in Galileo's, he had fallen into the greatest absurdities, and betrayed the most complete ignorance of his subject. The consequence of this public exposure, and of the report of the famous Fra Paolo Sarpi, to whom the matter had been referred, was a formal prohibition by the university of Capra's publication, and all copies of the book then on hand were seized, and probably destroyed, though Galileo has preserved it from oblivion by incorporating it in his own publication.

Nearly at the same time, 1607, or immediately after, he first turned his attention towards the loadstone, on which our

* Math. Coll. vol. ii.

† Constructio Circini Proportionum. Moguntiae, 1605.

countryman Gilbert had already published his researches, conducted in the true spirit of the inductive method. Very little that is original is to be found in Galileo's works on this subject, except some allusions to his method of arming magnets, in which, as in most of his practical and mechanical operations, he appears to have been singularly successful. Sir Kenelm Digby* asserts, that the magnets armed by Galileo would support twice as great a weight as one of Gilbert's of the same size. Galileo was well acquainted, as appears from his frequent allusions in different parts of his works, with what Gilbert had done, of whom he says, "I extremely praise, admire, and envy this author;—I think him, moreover, worthy of the greatest praise for the many new and true observations that he has made to the disgrace of so many vain and fabling authors, who write, not from their own knowledge only, but repeat every thing they hear from the foolish vulgar, without attempting to satisfy themselves of the same by experience, perhaps that they may not diminish the size of their books."

Galileo's reputation being now greatly increased, proposals were made to him, in 1609, to return to his original situation at Pisa. He had been in the habit of passing over to Florence during the academic vacation, for the purpose of giving mathematical instruction to the younger members of Ferdinand's family; and Cosmo, who had now succeeded his father as duke of Tuscany, regretted that so masterly a genius had been allowed to leave the university which he naturally should have graced. A few extracts from Galileo's answers to these overtures will serve to show the nature of his situation at Padua, and the manner in which his time was there occupied. "I will not hesitate to say, having now laboured during twenty years, and those the best of my life, in dealing out, as one may say, in detail, at the request of any body, the little talent which God has granted to my assiduity in my profession, that my wish certainly would be to have sufficient rest and leisure to enable me, before my life comes to its close, to conclude three great works which I have in hand, and to publish them; which might perhaps bring some credit to me, and to those who had favoured me in this undertaking, and possibly may be of

greater and more frequent service to students than in the rest of my life I could personally afford them. Greater leisure than I have here I doubt if I could meet with elsewhere, so long as I am compelled to support my family from my public and private lectures, (nor would I willingly lecture in any other city than this, for several reasons which would be long to mention) nevertheless not even the liberty I have here is sufficient, where I am obliged to spend many, and often the best hours of the day at the request of this and that man. —My public salary here is 520 florins, which I am almost certain will be advanced to as many crowns upon my reelection, and these I can greatly increase by receiving pupils, and from private lectures, to any extent that I please. My public duty does not confine me during more than 60 half hours in the year, and even that not so strictly but that I may, on occasion of any business, contrive to get some vacant days; the rest of my time is absolutely at my own disposal; but because my private lectures and domestic pupils are a great hindrance and interruption of my studies, I wish to live entirely exempt from the former, and in great measure from the latter: for if I am to return to my native country, I should wish the first object of his Serene Highness to be, that leisure and opportunity should be given me to complete my works without employing myself in lecturing. —And, in short, I should wish to gain my bread from my writings, which I would always dedicate to my Serene Master.—The works which I have to finish are principally —two books on the system or structure of the Universe, an immense work, full of philosophy, astronomy, and geometry; three books on Local Motion, a science entirely new, no one, either ancient or modern, having discovered any of the very many admirable accidents which I demonstrate in natural and violent motions, so that I may with very great reason call it a new science, and invented by me from its very first principles; three books of Mechanics, two on the demonstration of principles and one of problems; and although others have treated this same matter, yet all that has been hitherto written, neither in quantity, nor otherwise, is the quarter of what I am writing on it. I have also different treatises on natural subjects; On sound and speech; On light and colours; On the tide; On the composition of continuous quantity; On the

* Treatise of the Nature of Bodies, London, 1665.

motions of animals;—And others besides. I have also an idea of writing some books relating to the military art, giving not only a model of a soldier, but teaching with very exact rules every thing which it is his duty to know that depends upon mathematics; as the knowledge of castrametation, drawing up battalions, fortifications, assaults, planning, surveying, the knowledge of artillery, the use of instruments, &c. I also wish to reprint the 'Use of my Geometrical Compass,' which is dedicated to his highness, and which is no longer to be met with; for this instrument has experienced such favour from the public, that in fact no other instruments of this kind are now made, and I know that up to this time several thousands of mine have been made.—I say nothing as to the amount of my salary, feeling convinced that as I am to live upon it, the graciousness of his highness would not deprive me of any of those comforts, which, however, I feel the want of less than many others; and therefore I say nothing more on the subject. Finally, on the title and profession of my service, I should wish that to the name of Mathematician, his highness would add that of Philosopher, as I profess to have studied a greater number of years in philosophy than months in pure mathematics; and how I have profited by it, and if I can or ought to deserve this title, I may let their highnesses see as often as it shall please them to give me an opportunity of discussing such subjects in their presence with those who are most esteemed in this knowledge." It may perhaps be seen in the expressions of this letter, that Galileo was not inclined to undervalue his own merits, but the peculiar nature of the correspondence should be taken into account, which might justify his indulging a little more than usual in self-praise, and it would have been perhaps almost impossible for him to have remained entirely blind to his vast superiority over his contemporaries.

Many of the treatises which Galileo here mentions, as well as another on dialling, have been irrecoverably lost, through the superstitious weakness of some of his relations, who after his death suffered the family confessor to examine his papers, and to destroy whatever seemed to him objectionable; a portion which, according to the notions then prevalent, was like to comprise the most valuable part of the papers submitted to this expurgation. It is also

supposed that many were burnt by his infatuated grandson Cosimo, who conceived he was thus offering a proper and pious sacrifice before devoting himself to the life of a missionary. A Treatise on Fortification, by Galileo, was found in 1793, and is contained among the documents published by Venturi. Galileo does not profess in it to give much original matter, but to lay before his readers a compendium of the most approved principles then already known. It has been supposed that Gustavus Adolphus of Sweden attended Galileo's lectures on this subject, whilst in Italy; but the fact is not satisfactorily ascertained. Galileo himself mentions a Prince Gustavus of Sweden to whom he gave instruction in mathematics, but the dates cannot well be made to agree. The question deserves notice only from its having been made the subject of controversy.

The loss of Galileo's Essay on Continuous Quantity is particularly to be regretted, as it would be highly interesting to see how far he succeeded in methodizing his thoughts on this important topic. It is to his pupil Cavalieri (who refused to publish his book so long as he hoped to see Galileo's printed) that we owe "The Method of Indivisibles," which is universally recognized as one of the first germs of the powerful methods of modern analysis. Throughout Galileo's works we find many indications of his having thought much on the subject, but his remarks are vague, and bear little, if at all, on the application of the method. To this the chief part of Cavalieri's book is devoted, though he was not so entirely regardless of the principles on which his method of measuring spaces is founded, as he is sometimes represented. This method consisted in considering lines as made up of an infinite number of points, surfaces in like manner as composed of lines, and solids of surfaces; but there is an observation at the beginning of the 7th book, which shews clearly that Cavalieri had taken a much more profound view of the subject than is implied in this superficial exposition, and had approached very closely to the apparently more exact theories of his successors. Anticipating the objections to his hypothesis, he argues, that "there is no necessity to suppose the continuous quantities made up of these indivisible parts, *but only that they will observe the same ratios as those parts do.*" It ought not to be omitted, that Kepler also had given an impulse to

Cavalieri in his "New method of Guaging," which is the earliest work with which we are acquainted, where principles of this sort are employed.*

CHAPTER VI.

Invention of the telescope—Fracastoro—Porta—Reflecting telescope—Roger Bacon—Digges—De Dominis—Jansen—Lipperhey—Galileo constructs telescopes—Microscopes—Re-elected Professor at Padua for life.

THE year 1609 was signalized by Galileo's discovery of the telescope, which, in the minds of many, is the principal, if not the sole invention associated with his name. It cannot be denied that his fame, as the founder of the school of experimental philosophy, has been in an unmerited degree cast into the shade by the splendour of his astronomical discoveries; yet Lagrange† surely errs in the opposite extreme, when he almost denies that these form any real or solid part of the glory of this great man; and Montucla‡ omits an important ingredient in his merit, when he (in other respects very justly) remarks, that it required far less genius to point a telescope towards the heavens than to trace the unheeded, because daily recurring, phenomena of motion up to its simple and primary laws. We are to remember that in the days of Galileo a telescope could scarcely be pointed to the heavens with impunity, and that a courageous mind was required to contradict, and a strong one to bear down, a party, who, when invited to look on any object in the heavens which Aristotle had never suspected, immediately refused all credit to those senses, to which, on other occasions, they so confidently appealed. It surely is a real and solid part of Galileo's glory that he consumed his life in laborious and indefatigable observations, and that he persevered in announcing his discoveries undisgusted by the invectives, and undismayed by the persecutions, to which they subjected him. Plagiarist! liar! impostor! heretic! were among the expressions of malignant hatred lavished upon him, and although he also was not without some violent and foul-mouthed partisans, yet it must be told to his credit that he himself seldom condescended to notice these torrents of abuse, otherwise than by good-

humoured retorts, and by prosecuting his observations with renewed assiduity and zeal.

The use of single lenses in aid of the sight had been long known. Spectacles were in common use at the beginning of the fourteenth century, and there are several hints, more or less obscure, in many early writers, of the effects which might be expected from a combination of glasses; but it does not appear with certainty that any of these authors had attempted to reduce their ideas to practice. After the discovery of the telescope, almost every country endeavoured to find in the writings of its early philosophers traces of the knowledge of such an instrument, but in general with success very inadequate to the zeal of their national prepossessions. There are two authors especially to whom the attention of Kepler and others was turned, immediately upon the promulgation of the discovery, as containing the germ of it in their works. These are Baptista Porta, and Gerolamo Fracastoro. We have already had occasion to quote the Homocentrica of Fracastoro, who died in 1553; the following expressions, though they seem to refer to actual experiment, yet fall short of the meaning with which it has been attempted to invest them. After explaining and commenting on some phenomena of refraction through different media, to which he was led by the necessity of reconciling his theory with the variable magnitudes of the planets, he goes on to say—"For which reason, those things which are seen at the bottom of water, appear greater than those which are at the top; and if any one look through two eyeglasses, *one placed upon the other*, he will see every thing much larger and nearer."* It should seem that this passage (as Delambre has already remarked) rather refers to the close application of one glass upon another, and it may fairly be doubted whether any thing analogous to the composition of the telescope was in the writer's thoughts. Baptista Porta writes on the same subject more fully;—"Concave lenses show distant objects most clearly, convex those which are nearer, whence they may be used to assist the sight. With a concave glass distant objects will be seen, small, but distinct; with a convex one those near at hand, larger, but confused; if you

* Nova Stereometria Doliorum—Lincii, 1615.

† Mécanique Analytique.

‡ Histoire des Mathématiques, tom. ii.

* "Per duo specilla ocularia si quis perspiciat, altero alteri superposito, majora multo et propinquiora videbitur."—Fracast. Homocentrica, § 2, c. 8.

know rightly how to combine one of each sort, you will see both far and near objects larger and clearer.* These words show, if Porta really was then unacquainted with the telescope, how close it is possible to pass by an invention without lighting on it, for of precisely such a combination of a convex and concave lens, fitted to the ends of an organ pipe by way of tube, did the whole of Galileo's telescope consist. If Porta had stopped here he might more securely have enjoyed the reputation of the invention, but he then professes to describe the construction of his instrument, which has no relation whatever to his previous remarks. "I shall now endeavour to show in what manner we may contrive to recognize our friends at the distance of several miles, and how those of weak sight may read the most minute letters from a distance. It is an invention of great utility, and grounded on optical principles, nor is it at all difficult of execution; but it must be so divulged as not to be understood by the vulgar, and yet be clear to the sharpsighted." The description which follows seems far enough removed from the apprehended danger of being too clear, and indeed every writer who has hitherto quoted it has merely given the passage in its original Latin, apparently despairing of an intelligible translation. With some alterations in the punctuation, which appear necessary to bring it into any grammatical construction,† it may be supposed to bear something like the following meaning:—"Let a view be contrived in the centre of a mirror, where it is most effective. All the solar rays are exceedingly dispersed, and do not in the least come together (in the true centre); but there is a concourse of all the rays in the central part of the said mirror, half way towards the other centre, where the cross diameters meet. This view is contrived in the following manner. A concave cylindrical mirror

placed directly in front, but with its axis inclined, must be adapted to that focus: and let obtuse angled or right angled triangles be cut out with two cross lines on each side drawn from the centre, and a glass (*specillum*) will be completed, fit for the purposes we mentioned." If it were not for the word "*specillum*," which, in the passage immediately preceding this, Porta* contrasts with "*speculum*," and which he afterwards explains to mean a glass lens, it would be very clear that the foregoing passage (supposing it to have any meaning) must be referred to a reflecting telescope, and it is a little singular that while this obscure passage has attracted universal attention, no one, so far as we are aware, has taken any notice of the following unequivocal description of the principal part of Newton's construction of the same instrument. It is in the 5th chapter of the 17th book, where Porta explains by what device exceedingly minute letters may be read without difficulty. "Place a concave mirror so that the back of it may lie against your breast; opposite to it, and within the burning point, place the writing; put a plane mirror behind it, that may be under your eyes. Then the images of the letters which are in the concave mirror, and which the concave has magnified, will be reflected in the plane mirror, so that you may read without difficulty."

We have not been able to meet with the Italian translation of Porta's Natural Magic, which was published in 1611, under his own superintendence; but the English translator of 1658 would probably have known if any intelligible interpretation were there given of the mysterious passage above quoted, and his translation is so devoid of meaning as strongly to militate against this idea. Porta, indeed, claimed the invention as his own, and is believed to have hastened his death, (which happened in 1615, he being then 80 years old,) by the fatigue of composing a Treatise on the Telescope, in which he had promised to exhaust the subject. We do not know whether this is the same work which was published after his death by Stelliola,‡ but which contains no allusion to Porta's claim, and possibly Stelliola may have thought it most for his friend's reputation to suppress it. Schott§ says, a friend of his had

* Si utrumque recte componere noveris, et longinquæ et proxima majora et clara videbis.—Mag. Nat. lib. 17.

† The passage in the original, which is printed alike in the editions of 1598, 1607, 1619, and 1650, is as follows: Visus constituitur centro valentissimus speculi, ubi fiet, et valentissimæ universales solares radii disperguntur, et coeunt minime, sed centro prædicti speculi in illius medio, ubi diametri transversales, omnium ibi concurrunt. Constituitur hoc modo speculum concavum columnare æquidistantibus lateribus, sed lateri uno obliquo sectionibus illis accommodatur, trianguli vero obtusianguli, vel orthogonii secuntur, hinc inde duobus transversalibus lineis, ex centroeductis. Et confectum erit specillum, ad id, quod diximus, utile.

* Diximus de Ptolemæi speculo, sive specillo potius, quo per sexcentena millia pervenientes naves conspicebat.

† Il Telescopio, 1627.

‡ Historia Naturæ et Artis Heribopol, 1657.

seen Porta's book in manuscript, and that it did at that time contain the assertion of Porta's title to the invention. After all it is not improbable that he may have derived his notions of magnifying distant objects from our celebrated countryman Roger Bacon, who died about the year 1300. He has been supposed, not without good grounds, to have been one of the first who recognised the use of single lenses in producing distinct vision, and he has some expressions with respect to their combination which promise effects analogous to those held out by Porta. In "The Admirable Force of Art and Nature," he says, "Physical figurations are far more strange, for in such manner may we frame perspeets and looking-glasses that one thing shall appear to be many, as one man shall seeme a whole armie; and divers sunnes and moones, yea, as many as we please, shall appeare at one time, &c. And so may the perspeets be framed, that things most farre off may seeme most nigh unto us, and clean contrarie, soe that we may reade very small letters an incredible distance from us, and behold things how little soever they be, and make stars to appeare wheresoever we will, &c. And, besides all these, we may so frame perspeets that any man entering into a house he shall indeed see gold, and silver, and precious stones, and what else he will, but when he maketh haste to the place he shall find; just nothing." It seems plain, that the author is here speaking solely of mirrors, and we must not too hastily draw the conclusion, because in the first and last of these assertions he is, to a certain extent, borne out by facts, that he therefore was in possession of a method of accomplishing the middle problem also. In the previous chapter, he gives a long list of notable things, (much in the style of the Marquis of Worcester's Century of Inventions) which if we can really persuade ourselves that he was capable of accomplishing, we must allow the present age to be still immeasurably inferior to him in science.

Thomas Digges, in the preface to his *Pantometria*, (published in 1591) declares, "My father, by his continuall painfull practises, assisted with demonstrations mathematicall, was able, and sundry times hath by proportionall glasses, duely situate in convenient angles, not only discovered things farre off, read letters, numbered peeces of money, with the very coyne and super-

scription thereof, cast by some of his freends of purpose, upon downes in open fields; but also, seuen miles off, declared what hath beene doone at that instant in priuate places. He hath also sundrie times, by the sunne beames, fired powder and dischargde ordnance halfe a mile and more distante; which things I am the boulder to report, for that there are yet living diverse (of these his dooings) oculati testes, (eye witnesses) and many other matters farre more strange and rare, which I omit as impertinent to this place."

We find another pretender to the honour of the discovery of the telescope in the celebrated Antonio de Dominis, Archbishop of Spalatro, famous in the annals of optics for being one of the first to explain the theory of the rainbow. Montucla, following P. Boscovich, has scarcely done justice to De Dominis, whom he treats as a mere pretender and ignorant person. The indisposition of Boscovich towards him is sufficiently accounted for by the circumstance of his being a Catholic prelate who had embraced the cause of Protestantism. His nominal reconciliation with the Church of Rome would probably not have saved him from the stake, had not a natural death released him when imprisoned on that account at Rome. Judgment was pronounced upon him notwithstanding, and his body and books were publicly burnt in the Campo de' Fiori, in 1624. His treatise, *De Radiis*, (which is very rarely to be met with) was published by Bartolo after the acknowledged invention of the telescope by Galileo; but Bartolo tells us, in the preface, that the manuscript was communicated to him from a collection of papers written 20 years before, on his inquiring the Archbishop's opinion with respect to the newly discovered instrument, and that he got leave to publish it, "with the addition of one or two chapters." The treatise contains a complete description of a telescope, which, however, is professed merely to be an improvement on spectacles, and if the author's intention had been to interpolate an afterwritten account, in order to secure to himself the undeserved honour of the invention, it seems improbable that he would have suffered an acknowledgment of additions, previous to publication, to be inserted in the preface. Besides, the whole tone of the work is that of a candid and truth-seeking philosopher, very far

tucula calls him, conspicuous for ignorance even among the ignorant men of his age. He gives a drawing of a convex and concave lens, and traces the passage of the rays through them; to which he subjoins, that he has not satisfied himself with any determination of the precise distance to which the glasses should be separated, according to their convexity and concavity, but recommends the proper distance to be found by actual experiment, and tells us, that the effect of the instrument will be to prevent the confusion arising from the interference of the direct and refracted rays, and to magnify the object by increasing the visible angle under which it is viewed. These, among the many claimants, are certainly the authors who approached the most nearly to the discovery: and the reader may judge, from the passages cited, whether the knowledge of the telescope can with probability be referred to a period earlier than the commencement of the 17th century. At all events, we can find no earlier trace of its being applied to any practical use; the knowledge, if it existed, remained speculative and barren.

In 1609, Galileo, then being on a visit to a friend at Venice, heard a rumour of the recent invention, by a Dutch spectacle-maker, of an instrument which was said to represent distant objects nearer than they usually appeared. According to his own account, this general rumour, which was confirmed to him by letters from Paris, was all that he learned on the subject; and returning to Padua, he immediately applied himself to consider the means by which such an effect could be produced. Fuccarius, in an abusive letter which he wrote on the subject, asserts that one of the Dutch telescopes had been at that time actually brought to Venice, and that he (Fuccarius) had seen it; which, even if true, is perfectly consistent with Galileo's statement; and in fact the question, whether or not Galileo saw the original instrument, becomes important only from his expressly asserting the contrary, and professing to give the train of reasoning by which he discovered its principle; so that any insinuation that he had actually seen the Dutch glass, becomes a direct impeachment of his veracity. It is certain, from the following extract of a letter from Lorenzo Pignoria to Paolo Gualdo, that one at least of the Dutch glasses had been sent to Italy. It is

dated Padua, 31st August, 1609.* "We have no news, except the return of His Serene Highness, and the re-election of the lecturers, among whom Sign. Galileo has contrived to get 1000 florins for life; and it is said to be on account of an eyeglass, like the one which was sent from Flanders to Cardinal Borghese. We have seen some here, and truly they succeed well."

It is allowed by every one that the Dutchman, or rather Zealander, made his discovery by mere accident, which greatly derogates from any honour attached to it; but even this diminished degree of credit has been fiercely disputed. According to one account, which appears consistent and probable, it had been made for sometime before its importance was in the slightest degree understood or appreciated, but was set up in the optician's shop as a curious philosophical toy, showing a large and inverted image of a weathercock, towards which it was directed. The Marquis Spinola, chancing to see it, was struck with the phenomenon, purchased the instrument, and presented it either to the Archduke Albert of Austria, or to Prince Maurice of Nassau, whose name appears in every version of the story, and who first entertained the idea of employing it in military reconnoissances.

Zacharias Jansen, and Henry Lipperhey, two spectacle-makers, living close to each other, near the church of Middleburg, have both had strenuous supporters of their title to the invention. A third pretender appeared afterwards in the person of James Metius of Alkmaer, who is mentioned by Huyghens and Des Cartes, but his claims rest upon no authority whatever comparable to that which supports the other two. About half a century afterwards, Borelli was at the pains to collect and publish a number of letters and depositions which he procured, as well on one side as on the other.† It seems that the truth lies between them, and that one, probably Jansen, was the inventor of the *microscope*, which application of the principle was unquestionably of an earlier date, perhaps as far back as 1590. Jansen gave one of his microscopes to the Archduke, who gave it to Cornelius Drebbel, a salaried mathematician at the court of our James the first, where William Borelli (not the author above

* Lettère d'Uomini illustri. Venezia, 1744.

† Borelli, De vero Telescopii inventore, 1655.

mentioned) saw it many years afterwards, when ambassador from the United Provinces to England, and got from Drebbel this account of the quarter whence it came. Lipperhey afterwards, in 1609, accidentally hit upon the *telescope*, and on the fame of this discovery it would not be difficult for Jansen, already in possession of an instrument so much resembling it, to perceive the slight difference between them, and to construct a telescope independently of Lipperhey, so that each, with some show of reason, might claim the priority of the invention. A notion of this kind reconciles the testimony of many conflicting witnesses on the subject, some of whom do not seem to distinguish very accurately whether the telescope or microscope is the instrument to which their evidence refers. Borelli arrives at the conclusion, that Jansen was the inventor; but not satisfied with this, he endeavours, with a glaring partiality which makes his former determination suspicious, to secure for him and his son the more solid reputation of having anticipated Galileo in the useful employment of the invention. He has however inserted in his collections a letter from John the son of Zacharias, in which John, omitting all mention of his father, speaks of his own observation of the satellites of Jupiter, evidently seeking to insinuate that they were earlier than Galileo's; and in this sense the letter has since been quoted,* although it appears from John's own deposition, preserved in the same collection, that at the time of their discovery he could not have been more than six years old. An oversight of this sort throws doubt on the whole of the pretended observations; and indeed the letter has much the air of being the production of a person imperfectly informed on the subject on which he writes, and probably was compiled to suit Borelli's purposes, which were to make Galileo's share in the invention appear as small as possible.

Galileo himself gives a very intelligible account of the process of reasoning, by which he detected the secret.—“I argued in the following manner. The contrivance consists either of one glass or of more—one is not sufficient, since it must be either convex, concave, or plane; the last does not produce any sensible alteration in objects, the concave diminishes them: it is true that the

convex magnifies, but it renders them confused and indistinct; consequently, one glass is insufficient to produce the desired effect. Proceeding to consider two glasses, and bearing in mind that the plane glass causes no change, I determined that the instrument could not consist of the combination of a plane glass with either of the other two. I therefore applied myself to make experiments on combinations of the two other kinds, and thus obtained that of which I was in search.” It has been urged against Galileo that, if he really invented the telescope on theoretical principles, the same theory ought at once to have conducted him to a more perfect instrument than that which he at first constructed;* but it is plain, from this statement, that he does not profess to have theorized beyond the determination of the species of glass which he should employ in his experiments, and the rest of his operations he avows to have been purely empirical. Besides, we must take into account the difficulty of grinding the glasses, particularly when fit tools were yet to be made, and something must be attributed to Galileo's eagerness to bring his results to the test of actual experiment, without waiting for that improvement which a longer delay might and did suggest. Galileo's language bears a resemblance to the first passage which we quoted from Baptista Porta, sufficiently close to make it not improbable that he might be assisted in his inquiries by some recollection of it, and the same passage seems, in like manner, to have recurred to the mind of Kepler, as soon as he heard of the invention. Galileo's telescope consisted of a plano-convex and plano-concave lens, the latter nearest the eye, distant from each other by the difference of their focal lengths, being, in principle, exactly the same with the modern opera-glass. He seems to have thought that the Dutch glass was the same, but this could not be the case, if the above quoted particular of the *inverted* weathercock, which belongs to most traditions of the story, be correct; because it is the peculiarity of this kind of telescope not to invert objects, and we should be thus furnished with a demonstrative proof of the falsehood of Fuccarius's insinuation: in that case the Dutch glass must have been similar to what was afterwards called the astronomical telescope, consisting of two

* Encyclopædia Britannica. ART. TELESCOPE.

* Ibid.

convex glasses distant from each other by the sum of their focal lengths. This supposition is not controverted by the fact, that this sort of telescope was never employed by astronomers till long afterwards; for the fame of Galileo's observations, and the superior excellence of the instruments constructed under his superintendence, induced every one in the first instance to imitate his constructions as closely as possible. The astronomical telescope was however eventually found to possess superior advantages over that which Galileo imagined, and it is on this latter principle that all modern refracting telescopes are constructed; the inversion being counteracted in those which are intended for terrestrial observations, by the introduction of a second pair of similar glasses, which restore the inverted image to its original position. For further details on the improvements which have been subsequently introduced, and on the reflecting telescope, which was not brought into use till the latter part of the century, the reader is referred to the *Treatise on OPTICAL INSTRUMENTS*.

Galileo, about the same time, constructed microscopes on the same principle, for we find that, in 1612, he presented one to Sigismund, King of Poland; but his attention being principally devoted to the employment and perfection of his telescope, the microscope remained a long time imperfect in his hands: twelve years later, in 1624, he wrote to P. Federigo Cesi, that he had delayed to send the microscope, the use of which he there describes, because he had only just brought it to perfection, having experienced some difficulty in working the glasses. Schott tells an amusing story, in his "Magic of Nature," of a Bavarian philosopher, who, travelling in the Tyrol with one of the newly invented microscopes about him, was taken ill on the road and died. The authorities of the village took possession of his baggage, and were proceeding to perform the last duties to his body, when, on examining the little glass instrument in his pocket, which chanced to contain a flea, they were struck with the greatest astonishment and terror, and the poor Bavarian, condemned by acclamation as a sorcerer who was in the habit of using a portable familiar, was declared unworthy of Christian burial. Fortunately for his character, some bold sceptic ventured to open the instrument

and discovered the true nature of the imprisoned fiend.

As soon as Galileo's first telescope was completed, he returned with it to Venice, and the extraordinary sensation which it excited tends also strongly to refute Fuccarius's assertion that the Dutch glass was already known there. During more than a month Galileo's whole time was employed in exhibiting his instrument to the principal inhabitants of Venice, who thronged to his house to satisfy themselves of the truth of the wonderful stories in circulation; and at the end of that time the Doge, Leonardo Donati, caused it to be intimated to him that such a present would not be deemed unacceptable by the senate. Galileo took the hint, and his complaisance was rewarded by a mandate confirming him for life in his professorship at Padua, at the same time doubling his yearly salary, which was thus made to amount to 1000 florins.

It was long before the phrenzy of public curiosity abated. Sirturi describes a ludicrous violence which was done to himself, when, with the first telescope which he had succeeded in making, he went up into the tower of St. Mark, at Venice, in the vain hope of being there entirely unmolested. Unluckily he was seen by some idlers in the street: a crowd soon collected round him, who insisted on taking possession of his instrument, and, handing it one to the other, detained him there for several hours till their curiosity was satiated, when he was allowed to return home. Hearing them also inquire eagerly at what inn he lodged, he thought it better to quit Venice early the next morning, and prosecute his observations in a less inquisitive neighbourhood.* Instruments of an inferior description were soon manufactured, and vended every where as philosophical playthings, much in the way in which, in our own time, the kaleidoscope spread over Europe as fast as travellers could carry them. But the fabrication of a better sort was long confined, almost solely, to Galileo and those whom he immediately instructed; and so late as the year 1637, we find Gaertner, or as he chose to call himself, Hortensius, assuring Galileo that none could be met with in Holland sufficiently good to show Jupiter's disc well defined; and in 1634 Gassendi begs for a telescope from Galileo, informing

* *Telescopium. Venetijs, 1619,*

him that he was unable to procure a good one either in Venice, Paris, or Amsterdam.

The instrument, on its first invention, was generally known by the names of Galileo's tube, the perspective, the double eye-glass: the names of telescope and microscope were suggested by Demisiano, as we are told by Lagalla in his treatise on the Moon.*

CHAPTER VII.

Discovery of Jupiter's satellites—Kepler—Sizzi—Astrologers—Mæstlin—Horky—Mayer.

As soon as Galileo had provided himself with a second instrument, he began a careful examination of the heavenly bodies, and a series of splendid discoveries soon rewarded his diligence. After considering the beautiful appearances which the varied surface of the moon presented to this new instrument, he turned his telescope towards Jupiter, and his attention was soon arrested by the singular position of three small stars, near the body of that planet, which appeared almost in a straight line with it, and in the direction of the ecliptic. The following evening he was surprised to find that two of the three which had been to the eastward of the planet, now appeared on the contrary side, which he could not reconcile with the apparent motion of Jupiter among the fixed stars, as given by the tables. Observing these night after night, he could not fail to remark that they changed their relative positions. A fourth also appeared, and in a short time he could no longer refuse to believe that these small stars were four moons, revolving round Jupiter in the same manner in which our earth is accompanied by its single attendant. In honour of his patron Cosmo, he named them the Medicæan stars. As they are now hardly known by this appellation, his doubts, whether he should call them Medicæan, after Cosmo's family, or Cosmical, from his individual name, are become of less interest.

An extract from a letter which Galileo received on this occasion from the court of France, will serve to show how highly the honour of giving a name to these new planets was at that time appreciated, and also how much was expected from Galileo's first success in examining the heavens. "The second

request, but the most pressing one which I can make to you, is, that you should determine, if you discover any other fine star, to call it by the name of the great star of France, as well as the most brilliant of all the earth; and, if it seems fit to you, call it rather by his proper name of Henri, than by the family name of Bourbon: thus you will have an opportunity of doing a thing just and due and proper in itself, and at the same time will render yourself and your family rich and powerful for ever." The writer then proceeds to enumerate the different claims of Henri IV. to this honour, not forgetting that he married into the family of the Medici, &c.

The result of these observations was given to the world, in an Essay which Galileo entitled *Nuncius Sidereus*, or the Intelligencer of the Stars; and it is difficult to describe the extraordinary sensation which its publication produced. Many doubted, many positively refused to believe, so novel an announcement; all were struck with the greatest astonishment, according to their respective opinions, either at the new view of the universe thus offered to them, or at the daring audacity of Galileo in inventing such fables. We shall proceed to extract a few passages from contemporary writers relative to this book, and the discoveries announced in it.

Kepler deserves precedence, both from his own celebrity, and from the lively and characteristic account which he gives of his first receiving the intelligence:—"I was sitting idle at home, thinking of you, most excellent Galileo, and your letters, when the news was brought me of the discovery of four planets by the help of the double eye-glass. Wachenfels stopped his carriage at my door to tell me, when such a fit of wonder seized me at a report which seemed so very absurd, and I was thrown into such agitation at seeing an old dispute between us decided in this way, that between his joy, my colouring, and the laughter of both, confounded as we were by such a novelty, we were hardly capable, he of speaking, or I of listening. My amazement was increased by the assertion of Wachenfels, that those who sent this news from Galileo were celebrated men, far removed by their learning, weight, and character, above vulgar folly; that the book was actually in the press, and would be published immediately. On our separating, the authority of Galileo had the greatest influence on

* De phaenomenis in orbe Lunæ. Venetiis, 1612.

me, earned by the accuracy of his judgment, and excellence of his understanding; so I immediately fell to thinking how there could be any addition to the number of the planets without overturning my *Mysterium Cosmographicum*, published thirteen years ago, according to which Euclid's five regular solids do not allow more than six planets round the sun."

This was "one of the many wild notions of Kepler's fanciful brain, among which he was lucky enough at length to hit upon the real and principal laws of the planetary motions. His theory may be briefly given in his own words:—"The orbit of the earth is the measure of the rest. About it circumscribe a dodecahedron. The sphere including this will be that of Mars. About Mars' orbit describe a tetrahedron: the sphere containing this will be Jupiter's orbit. Round Jupiter's describe a cube: the sphere including this will be Saturn's. Within the earth's orbit inscribe an icosahedron: the sphere inscribed in it will be Venus's orbit. In Venus inscribe an octahedron: the sphere inscribed in it will be Mercury's. You have now the reason of the number of the planets:" for as there are no more than the five regular solids here enumerated, Kepler conceived this to be a satisfactory reason why there could be neither more nor less than six planets. His letter continues:—"I am so far from disbelieving the existence of the four circumjovial planets, that I long for a telescope to anticipate you, if possible, in discovering two round Mars, (as the proportion seems to me to require,) six or eight round Saturn, and perhaps one each round Mercury and Venus."

The reader has here an opportunity of verifying Galileo's observation, that Kepler's method of philosophizing differed widely from his own. The proper line is certainly difficult to hit between the mere theorist and the mere observer. It is not difficult at once to condemn the former, and yet the latter will deprive himself of an important, and often indispensable assistance, if he neglect from time to time to consolidate his observations, and thence to conjecture the course of future observation most likely to reward his assiduity. This cannot be more forcibly expressed than in the words of Leonardo da Vinci:* "Theory is the general, experiments are the soldiers. The interpreter of the works of nature is experiment; that is never

wrong; it is our judgment which is sometimes deceived, because we are expecting results which experiment refuses to give. We must consult experiment, and vary the circumstances, till we have deduced general rules, for it alone can furnish us with them. But you will ask, what is the use of these general rules? I answer, that they direct us in our inquiries into nature and the operations of art. They keep us from deceiving ourselves and others, by promising ourselves results which we can never obtain."

In the instance before us, it is well known that, adopting some of the opinions of Bruno and Brutti, Galileo, even before he had seen the satellites of Jupiter, had allowed the possibility of the discovery of new planets; and we can scarcely suppose that they had weakened his belief in the probability of further success, or discouraged him from examining the other heavenly bodies. Kepler on the contrary had taken the opposite side of the argument; but no sooner was the fallacy of his first position undeniably demonstrated, than, passing at once from one extreme to the other, he framed an unsupported theory to account for the number of satellites which were round Jupiter, and for those which he expected to meet with elsewhere. Kepler has been styled the legislator of the skies; his laws were promulgated rather too arbitrarily, and they often failed, as all laws must do which are not drawn from a careful observation of the nature of those who are to be governed by them. Astronomers have reason to be grateful for the theorems which he was the first to establish; but so far as regards the progress of the science of inductive reasoning, it is perhaps to be regretted, that the seventeen years which he wasted in random and unconnected guesses should have been finally rewarded, by discoveries splendid enough to shed deceitful lustre upon the method by which he arrived at them.

Galileo himself clearly perceived the fallacious nature of these speculations on numbers and proportions, and has expressed his sentiments concerning them very unequivocally. "How great and common an error appears to me the mistake of those who persist in making their knowledge and apprehension the measure of the apprehension and knowledge of God; as if that alone were perfect, which they understand to be so. But I, on the contrary, observe that

* Venturi. *Essai sur les ouvrages de Leo. da Vinci.*

Nature has other scales of perfection, which we cannot comprehend, and rather seem disposed to class among imperfections. For instance, among the relations of different numbers, those appear to us most perfect which exist between numbers nearly related to each other; as the double, the triple, the proportion of three to two, &c.; those appear less perfect which exist between numbers remote from, and prime to each other; as 11 to 7, 17 to 13, 53 to 37, &c.; and most imperfect of all do those appear which exist between incommensurable quantities, which by us are nameless and inexplicable. Consequently, if the task had been given to a man, of establishing and ordering the rapid motions of the heavenly bodies, according to his notions of perfect proportions, I doubt not that he would have arranged them according to the former rational proportions; but, on the contrary, God, with no regard to our imaginary symmetries, has ordered them in proportions not only incommensurable and irrational, but altogether inappreciable by our intellect. A man ignorant of geometry may perhaps lament, that the circumference of a circle does not happen to be exactly three times the diameter, or in some other assignable proportion to it, rather than such that we have not yet been able to explain what the ratio between them is; but one who has more understanding will know that if they were other than they are, thousands of admirable conclusions would have been lost, and that none of the other properties of the circle would have been true: the surface of the sphere would not be quadruple of a great circle, nor the cylinder be to the sphere as three to two: in short, no part of geometry would be true, and as it now is. If one of our most celebrated architects had had to distribute this vast multitude of fixed stars through the great vault of heaven, I believe he would have disposed them with beautiful arrangements of squares, hexagons, and octagons; he would have dispersed the larger ones among the middle sized and the less, so as to correspond exactly with each other; and then he would think he had contrived admirable proportions: but God, on the contrary, has shaken them out from His hand as if by chance, and we, forsooth, must think that He has scattered them up yonder without any regularity, symmetry, and elegance."

It is worth remarking that the dangerous ideas of aptitude and congruence

of numbers had taken such deep and general root, that long afterwards, when the reality of Jupiter's satellites was incontestably established, and Huyghens had discovered a similar satellite near Saturn, he was so rash as to declare his belief, (unwarned by the vast progress which astronomy had made in his own time,) that no more satellites would be discovered, since the one which he discovered near Saturn, with Jupiter's four, and our moon, made up the number six, exactly equal to the number of the principal planets. Every reader knows that this notion, so unworthy the genius of Huyghens, has been since exploded by the discovery both of new planets, and new satellites.

Francesco Sizzi, a Florentine astronomer, took the matter up in a somewhat different strain from Kepler.*—

"There are seven windows given to animals in the domicile of the head, through which the air is admitted to the rest of the tabernacle of the body, to enlighten, to warm, and nourish it, which are the principal parts of the *μικροκοσμος* (or little world); two nostrils, two eyes, two ears, and a mouth; so in the heavens, as in a *μακροκοσμος* (or great world), there are two favourable stars, two unpropitious, two luminaries, and Mercury alone undecided and indifferent. From which and many other similar phenomena of nature, such as the seven metals, &c., which it were tedious to enumerate, we gather that the number of planets is necessarily seven. Moreover, the satellites are invisible to the naked eye, and therefore can exercise no influence on the earth, and therefore would be useless, and therefore do not exist. Besides, as well the Jews and other ancient nations as modern Europeans have adopted the division of the week into seven days, and have named them from the seven planets: now if we increase the number of the planets this whole system falls to the ground." To these remarks Galileo calmly replied, that whatever their force might be, as a reason for believing beforehand that no more than seven planets would be discovered, they hardly seemed of sufficient weight to destroy the new ones when actually seen.

Others, again, took a more dogged line of opposition, without venturing into the subtle analogies and arguments of the philosopher just cited. They contented themselves, and satisfied others,

with the simple assertion, that such things were not, and could not be, and the manner in which they maintained themselves in their incredulity was sufficiently ludicrous. "Oh, my dear Kepler,"* says Galileo, "how I wish that we could have one hearty laugh together. Here, at Padua, is the principal professor of philosophy, whom I have repeatedly and urgently requested to look at the moon and planets through my glass, which he pertinaciously refuses to do. Why are you not here? what shouts of laughter we should have at this glorious folly! and to hear the professor of philosophy at Pisa labouring before the grand duke with logical arguments, as if with magical incantations, to charm the new planets out of the sky."

Another opponent of Galileo deserves to be named, were it only for the singular impudence of the charge he ventures to bring against him. "We are not to think," says Christmann, in the Appendix to his *Nodus Gordius*, "that Jupiter has four satellites given him by nature, in order, by revolving round him, to immortalize the name of the Medici, who first had notice of the observation. These are the dreams of *idle men*, who love ludicrous ideas better than our laborious and industrious correction of the heavens.—Nature abhors so horrible a chaos, and to the truly wise such vanity is detestable.

Galileo was also urged by the astrologers to attribute some influence, according to their fantastic notions, to the satellites, and the account which he gives his friend Dini of his answer to one of this class is well worth extracting, as a specimen of his method of uniting sarcasm with serious expostulation; "I must," says he, "tell you what I said a few days back to one of those nativity-casters, who believe that God, when he created the heavens and the stars, had no thoughts beyond what they can themselves conceive, in order to free myself from his tedious importunity; for he protested, that unless I would declare to him the effect of the Medicæan planets, he would reject and deny them as needless and superfluous. I believe this set of men to be of Sizzi's opinion, that astronomers discovered the other seven planets, not by seeing them corporally in the skies, but only from their effects on earth,—much

in the manner in which some houses are discovered to be haunted by evil spirits, not by seeing them, but from the extravagant pranks which are played there. I replied, that he ought to reconsider the hundred or thousand opinions which, in the course of his life, he might have given, and particularly to examine well the events which he had predicted with the help of Jupiter, and if he should find that all had succeeded conformably to his predictions, I bid him prophecy merrily on, according to his old and wonted rules; for I assured him that the new planets would not in any degree affect the things which are already past, and that in future he would not be a less fortunate conjuror than he had been: but if, on the contrary, he should find the events depending on Jupiter, in some trifling particulars not to have agreed with his dogmas and prognosticating aphorisms, he ought to set to work to find new tables for calculating the constitution of the four Jovial circulators at every bygone moment, and, perhaps, from the diversity of their aspects, he would be able, with accurate observations and multiplied conjunctions, to discover the alterations and variety of influences depending upon them; and I reminded him, that in ages past they had not acquired knowledge with little labour, at the expense of others, from written books, but that the first inventors acquired the most excellent knowledge of things natural and divine with study and contemplation of the vast book which nature holds ever open before those who have eyes in their forehead and in their brain; and that it was a more honourable and praiseworthy enterprize with their own watching, toil, and study, to discover something admirable and new among the infinite number which yet remain concealed in the darkest depths of philosophy, than to pass a listless and lazy existence, labouring only to darken the toilsome inventions of their neighbours, in order to excuse their own cowardice and inaptitude for reasoning, while they cry out that nothing can be added to the discoveries already made."

The extract given above from Kepler, is taken from an Essay, published with the later editions of the *Nuncius*, the object and spirit of which seem to have been greatly misunderstood, even by some of Kepler's intimate friends.—They considered it as a covert attack upon Galileo, and, accordingly, Maestlin thus writes to him:—"In your Essay

* Kepleri Epistolæ.

(which I have just received) you have plucked Galileo's feathers well; I mean, that you have shown him not to be the inventor of the telescope, not to have been the first who observed the irregularities of the moon's surface, not to have been the first discoverer of more worlds than the ancients were acquainted with, &c. One source of exultation was still left him, from the apprehension of which Martin Horky has now entirely delivered me." It is difficult to discover in what part of Kepler's book *Maestlin* found all this, for it is one continued encomium upon Galileo; insomuch that Kepler almost apologizes in the preface for what may seem his intemperate admiration of his friend. "Some might wish I had spoken in more moderate terms in praise of Galileo, in consideration of the distinguished men who are opposed to his opinions, but I have written nothing fulsome or insincere. I praise him, for myself; I leave other men's judgments free; and shall be ready to join in condemnation when some one wiser than myself shall, by sound reasoning, point out his errors." However, *Maestlin* was not the only one who misunderstood Kepler's intentions: the Martin Horky of whom he speaks, a young German, also signalized himself by a vain attack upon the book which he thought his patron Kepler condemned. He was then travelling in Italy, whence he wrote to Kepler his first undetermined thoughts about the new discoveries. "They are wonderful; they are stupendous; whether they are true or false I cannot tell."* He seems soon to have decided that most reputation was to be gained on the side of Galileo's opponents, and his letters accordingly became filled with the most rancorous abuse of him. At the same time, that the reader may appreciate Horky's own character, we shall quote a short sentence at the end of one of his letters, where he writes of a paltry piece of dishonesty with as great glee as if he had solved an ingenious and scientific problem. After mentioning his meeting Galileo at Bologna, and being indulged with a trial of his telescope, which, he says, "does wonders upon the earth, but represents celestial objects falsely;"† he concludes with

* *Kepleri Epistolæ.*

† It may seem extraordinary that any one could support an argument by this partial disbelief in the instrument, which was allowed on all hands to represent terrestrial objects correctly. A similar instance of obstinacy, in an almost identical case though in a

the following honourable sentence:—"I must confide to you a theft which I committed. I contrived to take a mould of the glass in wax, without the knowledge of any one, and, when I get home, I trust to make a telescope even better than Galileo's own."

Horky having declared to Kepler, "I will never concede his four new planets to that Italian from Padua though I die for it," followed up this declaration by publishing a book against Galileo, which is the one alluded to by *Maestlin*, as having destroyed the little credit which, according to his view, Kepler's publication had left him. This book professes to contain the examination of four principal questions touching the alleged planets; 1st, Whether they exist? 2nd, What they are? 3rd, What they are like? 4th, Why they are? The first question is soon disposed of, by Horky's declaring positively that he has examined the heavens with Galileo's own glass, and that no such thing as a satellite about Jupiter exists. To the second, he declares solemnly, that he does not more surely know that he has a soul in his body, than that reflected rays are the sole cause of Galileo's erroneous observations. In regard to the third question, he says, that these planets are like the smallest fly compared to an elephant; and, finally, concludes on the fourth, that the only use of them is to gratify Galileo's "thirst of gold," and to afford himself a subject of discussion.*

Galileo did not condescend to notice this impertinent folly; it was answered by Roffini, a pupil of Magini, and by a young Scotchman of the name of Wedderburn, then a student at Padua, and afterwards a physician at the Court of Vienna. In the latter reply we find it mentioned, that Galileo was also using his telescope for the examination of insects,

more unpretending station, once came under the writer's own observation. A farmer in Cambridgeshire, who had acquired some confused notions of the use of the quadrant, consulted him on a new method of determining the distances and magnitudes of the sun and moon, which he declared were far different from the quantities usually assigned to them. After a little conversation, the root of his error, certainly sufficiently gross, appeared to be that he had confounded the angular measure of a degree, with 69½ miles, the linear measure of a degree on the earth's surface. As a short way of showing his mistake, he was desired to determine, in the same manner, the height of his barn which stood about 30 yards distant; he lifted the quadrant to his eye, but perceiving, probably, the monstrous size to which his principles were forcing him, he said, "Oh, Sir, the quadrant's only true for the sky." He must have been an objector of this kind, who said to Galileo.—"Oh, Sir, the telescope's only true for the earth."

* *Venturi.*

&c.* Horky sent his performance triumphantly to Kepler, and, as he returned home before receiving an answer, he presented himself before his patron in the same misapprehension under which he had written, but the philosopher received him with a burst of indignation which rapidly undeceived him. The conclusion of the story is characteristic enough to be given in Kepler's own account of the matter to Galileo, in which, after venting his wrath against this "scum of a fellow," whose "obscurity had given him audacity," he says, that Horky begged so hard to be forgiven, that "I have taken him again into favour upon this preliminary condition, to which he has agreed:—that I am to shew him Jupiter's satellites, AND HE IS TO SEE THEM, and own that they are there."

In the same letter Kepler writes, that although he has himself perfect confidence in the truth of Galileo's assertions, yet he wishes he could furnish him with some corroborative testimonies, which Kepler could quote in arguing the point with others. This request produced the following reply, from which the reader will also learn the new change which had now taken place in Galileo's fortunes, the result of the correspondence with Florence, part of which we have already extracted.† "In the first place, I return you my thanks that you first, and almost alone, before the question had been sifted (such is your candour and the loftiness of your mind), put faith in my assertions. You tell me you have some telescopes, but not sufficiently good to magnify distant objects with clearness, and that you anxiously expect a sight of mine, which magnifies images more than a thousand times. It is mine no longer, for the Grand Duke of Tuscany has asked it of me, and intends to lay it up in his museum, among his most rare and precious curiosities, in eternal remembrance of the invention: I have made no other of equal excellence, for the mechanical labour is very great: I have, however, devised some instruments for figuring and polishing them which I am unwilling to construct here, as they could not conveniently be carried to Florence, where I shall in future reside. You ask, my dear Kepler, for other testimonies:—I produce, for one, the Grand Duke, who, after observing the Medicæan planets several times with

me at Pisa during the last months, made me a present, at parting, worth more than a thousand florins, and has now invited me to attach myself to him with the annual salary of one thousand florins, and with the title of Philosopher and Principal Mathematician to His Highness; without the duties of any office to perform, but with the most complete leisure; so that I can complete my Treatises on Mechanics, on the Constitution of the Universe, and on Natural and Violent Local Motion, of which I have demonstrated geometrically many new and admirable phenomena. I produce, for another witness, myself, who, although already endowed in this college with the noble salary of one thousand florins; such as no professor of mathematics ever before received, and which I might securely enjoy during my life, even if these planets had deceived me and should disappear, yet quit this situation, and betake me where want and disgrace will be my punishment should I prove to have been mistaken."

It is difficult not to regret that Galileo should be thus called on to resign his best glasses, but it appears probable that on becoming more familiar with the Grand Duke, he ventured to suggest that this telescope would be more advantageously employed in his own hands, than pompously laid up in a museum; for in 1637 we find him saying, in answer to a request from his friend Micanzio to send him a telescope—"I am sorry that I cannot oblige you with the glasses for your friend, but I am no longer capable of making them, and I have just parted with two tolerably good ones which I had, reserving only my old discoverer of celestial novelties which is already promised to the Grand Duke. Cosmo was dead in 1637, and it is his son Ferdinand who is here meant, who appears to have inherited his father's love of science. Galileo tells us, in the same letter, that Ferdinand had been amusing himself for some months with making object-glasses, and always carried one with him to work at wherever he went.

When forwarding this telescope to Cosmo in the first instance, Galileo adds, with a very natural feeling—"I send it to his highness unadorned and unpolished, as I made it for my own use, and beg that it may always be left in the same state; for none of the old parts ought to be displaced to make room for new ones, which will have had more in the watchings and fatigues

* Quatuor probl. confut. per J. Wedderbornium, Scotobritannum. Patavii, 1610.

† See p. 10.

of these observations." A telescope was in existence, though with the object glass broken, at the end of the last century, and probably still is in the Museum at Florence, which was shewn as the discoverer of Jupiter's satellites. Nelli, on whose authority this is mentioned, appears to question its genuineness. The first reflecting telescope, made with Newton's own hands, and scarcely possessing less interest than the first of Galileo's, is preserved in the library of the Royal Society.

By degrees the enemies of Galileo and of the new stars found it impossible to persevere in their disbelief, whether real or pretended, and at length seemed resolved to compensate for the sluggishness of their perception, by its acuteness when brought into action. Simon Mayer published his "*Mundus Jovialis*" in 1614, in which he claims to have been an original observer of the satellites, but, with an affectation of candour, allows that Galileo observed them probably about the same time. The earliest observation which he has recorded is dated 29th December, 1609, but, not to mention the total want of probability that Mayer would not have immediately published so interesting a discovery, it is to be observed, that, as he used the old style, this date of 29th December agrees with the 8th January, 1610, of the new style, which was the date of Galileo's second observation, and Galileo ventured to declare his opinion, that this pretended observation was in fact a plagiarism.

Scheiner counted five, Rheita nine, and other observers, with increasing contempt for Galileo's imperfect announcements, carried the number as high as twelve.* In imitation of Galileo's nomenclature, and to honour the sovereigns of the respective observers, these supposed additional satellites were dignified with the names of Vladislavian, Agrippine, Urbanoctavian, and Ferdinandotertian planets; but a very short time served to show it was as unsafe to exceed as to fall short of the number which Galileo had fixed upon, for Jupiter rapidly removed himself from the neighbourhood of the fixed stars, which gave rise to these pretended discoveries, carrying with him only his four original attendants, which continued in every part of his orbit to revolve regularly about him.

Perhaps we cannot better wind up this account of the discovery of Jupiter's satellites, and of the intense interest

they have at all times inspired, than in the words of one who inherits a name worthy to be ranked with that of Galileo in the list of astronomical discoverers, and who takes his own place among the most accomplished mathematicians of the present times. "The discovery of these bodies was one of the first brilliant results of the invention of the telescope; one of the first great facts which opened the eyes of mankind to the system of the universe, which taught them the comparative insignificance of their own planet, and the superior vastness and nicer mechanism of those other bodies, which had before been distinguished from the stars only by their motion, and wherein none but the boldest thinkers had ventured to suspect a community of nature with our own globe. This discovery gave the holding turn to the opinions of mankind respecting the Copernican system; the analogy presented by these little bodies (little however only in comparison with the great central body about which they revolve) performing their beautiful revolutions in perfect harmony and order about it, being too strong to be resisted. This elegant system was watched with all the curiosity and interest the subject naturally inspired. The eclipses of the satellites speedily attracted attention, and the more when it was discerned, as it speedily was, by Galileo himself, that they afforded a ready method of determining the difference of longitudes of distant places on the earth's surface, by observations of the instants of their disappearances and reappearances, simultaneously made. Thus the first astronomical solution of the great problem of the longitude, the first mighty step, which pointed out a connection between speculative astronomy and practical utility, and which, replacing the fast dissipating dreams of astrology by nobler visions, showed how the stars might really, and without fiction, be called arbiters of the destinies of empires, we owe to the satellites of Jupiter, those atoms imperceptible to the naked eye, and floating like motes in the beam of their primary—itself an atom to our sight, noticed only by the careless vulgar as a large star, and by the philosophers of former ages as something moving among the stars, they knew not what, nor why: perhaps only to perplex the wise with fruitless conjectures, and harass the weak with fears as idle as their theories."*

* Herschel's Address to the Astronomical So-

* Sherburne's Sphere of Manilius. London, 1675.

CHAPTER VIII.

*Observations on the Moon—Nebulæ—
Saturn—Venus—Mars.*

THERE were other discoveries announced in Galileo's book of great and unprecedented importance, and which scarcely excited less discussion than the controverted Medicæan planets. His observations on the moon threw additional light on the constitution of the solar system, and cleared up the difficulties which encumbered the explanation of the varied appearance of her surface. The different theories current at that day, to account for these phenomena, are collected and described by Benedetti, and also with some liveliness, in a mythological poem, by Marini.* We are told, that, in the opinion of some, the dark shades on the moon's surface arise from the interposition of opaque bodies floating between her and the sun, which prevents his light from reaching those parts: others thought, that on account of her vicinity to the earth, she was partly tainted with the imperfection of our terrestrial and elementary nature, and was not of that entirely pure and refined substance of which the more remote heavens consist: a third party looked on her as a vast mirror, and maintained that the dark parts of her surface were the reflected images of our earthly forests and mountains.

Galileo's glass taught him to believe that the surface of this planet, far from being smooth and polished, as was generally taken for granted, really resembled our earth in its structure; he was able distinctly to trace on it the outlines of mountains and other inequalities, the summits of which reflected the rays of the sun before these reached the lower parts, and the sides of which, turned from his beams, lay buried in deep shadow. He recognised a distribution into something similar to continents of land, and oceans of water, which reflect the sun's light to us with greater or less vivacity, according to their constitution. These conclusions were utterly odious to the Aristotelians; they had formed a preconceived notion of what the moon ought to be, and they loathed the doctrines of Galileo, who took delight, as they said, in distorting and ruining the fairest works of nature. It was in vain he argued, as to the imaginary perfection

of the spherical form, that although the moon, or the earth, were it absolutely smooth, would indeed be a more perfect sphere than in its present rough state, yet touching the perfection of the earth, considered as a natural body calculated for a particular purpose, every one must see that absolute smoothness and sphericity would make it not only less perfect, but as far from being perfect as possible. "What else," he demanded, "would it be but a vast unblest desert, void of animals, of plants, of cities and of men; the abode of silence and inaction; senseless, lifeless, soulless, and stript of all those ornaments which make it now so various and so beautiful?"

He reasoned to no purpose with the slaves of the ancient schools: nothing could console them for the destruction of their smooth unalterable surface, and to such an absurd length was this hallucination carried, that one opponent of Galileo, Lodovico delle Colombe, constrained to allow the evidence of the sensible inequalities of the moon's surface, attempted to reconcile the old doctrine with the new observations, by asserting, that every part of the moon, which to the terrestrial observer appeared hollow and sunken, was in fact entirely and exactly filled up with a clear crystal substance, perfectly imperceptible by the senses, but which restored to the moon her accurately spherical and smooth surface. Galileo met the argument in the manner most fitting, according to one of Aristotle's own maxims, that "it is foolish to refute absurd opinions with too much curiosity." "Truly," says he, "the idea is admirable, its only fault is that it is neither demonstrated nor demonstrable; but I am perfectly ready to believe it, provided that, with equal courtesy, I may be allowed to raise upon your smooth surface, crystal mountains (which nobody can perceive) ten times higher than those which I have actually seen and measured." By threatening to proceed to such extremities, he seems to have scared the opposite party into moderation, for we do not find that the crystalline theory was persevered in.

In the same essay, Galileo also explained at some length the cause of that part of the moon being visible, which is unenlightened directly by the sun in her first and last quarter. Maestlin, and before him Leonardo da Vinci, had already declared this; to arise from what may be called *earthshine*, or the reflec-

* Adone di Marini, Venetiis, 1623, Cant. x.

tion of the sun's light from the terrestrial globe, exactly similar to that which the moon affords us when we are similarly placed between her and the sun; but the notion had not been favourably received, because one of the arguments against the earth being a planet, revolving like the rest round the sun, was, that it did not shine like them, and was therefore of a different nature; and this argument, weak as it was in itself, the theory of terrestrial reflection completely overturned. The more popular opinions ascribed this feeble light, some to the fixed stars, some to Venus, some to the rays of the sun, penetrating and shining through the moon. Even the sagacious Benedetti adopted the notion of this light being caused by Venus, in the same sentence in which he explains the true reason of the faint light observed during a total eclipse of the moon, pointing out that it is occasioned by those rays of the sun, which reach the moon, after being bent round the sides of the earth by the action of our atmosphere.*

Galileo also announced the detection of innumerable stars, invisible to the unassisted sight; and those remarkable appearances in the heavens, generally called nebulae, the most considerable of which is familiar to all under the name of the milky way, when examined by his instrument, were found to resolve themselves into a vast collection of minute stars, too closely congregated to produce a separate impression upon the unassisted eye.† Benedetti, who divined that the dark shades on the moon's surface arose from the constitution of those parts which suffered much of the light to pass into them, and consequently reflected a less portion of it, had maintained that the milky way was the result of the converse of the same phenomenon, and declared, in the language of his astronomy, that it was a part of the eighth orb, which did not, like the rest, allow the sun's light to traverse it freely, but reflected a small part feebly to our sight.

The Anti-Copernicans would probably have been well pleased, if by these eternally renewed discussions and disputes, they could have occupied Galileo's time

sufficiently to detain his attention from his telescope and astronomical observations; but he knew too well where his real strength lay, and they had scarcely time to compound any thing like an argument against him and his theories, before they found him in possession of some new facts, which they were unprepared to meet, otherwise than by the never-failing resource of abuse and affected contempt. The year had not expired before Galileo had new intelligence to communicate of the highest importance. Perhaps he had been taught caution from the numerous piracies which had been committed upon his discoveries, and he first announced his new discoveries enigmatically, veiling their real import by transpositions of the letters in the words which described them, (a practice then common, and not disused even at a much later date,) and inviting all astronomers to declare, within a certain time, if they had noted any thing new in the heavens worthy of observation. The transposed letters which he published were—

"Smaismrilmē poeta leumi hunc augtaciavus."

Kepler, in the true spirit of his riddling philosophy, endeavoured to decypher the meaning, and fancied he had succeeded when he formed a barbarous Latin verse,

"Salve umbistineum geminatum Martia proles,"

conceiving that the discovery, whatever it might be, related to the planet Mars, to which Kepler's attention had before been particularly directed. The reader, however, need not weary himself in seeking a translation of this solution, for at the request of the Emperor Rodolph, Galileo speedily sent to him the real reading—

Altissimum planetam tergeminum observavi;

that is, "I have observed that the most distant planet is triple," or, as he further explains the matter, "I have with great admiration observed that Saturn is not a single star, but three together, which as it were touch each other; they have no relative motion, and are constituted in this form oOo the middle being somewhat larger than the lateral ones. If we examine them with an eye-glass which magnifies the surface less than 1000 times, the three stars do not appear very distinctly, but Saturn has an oblong appearance, like the appearance of an olive, thus \ominus . Now I have discovered a court for Jupiter, and two servants for this old man, who aid his

* Speculat. Lib. Venetiis, 1585, Epistolæ.

† This opinion, with respect to the milky way, had been held by some of the ancient astronomers. See Manilius. Lib. i. v. 753.

"Anne magis densâ stellarum turba coronâ
Contexit flammâs, et crasso lumine candet,
Et fulgore nitet collato clarior orbis."

steps and never quit his side." Galileo was, however, no match in this style of writing for Kepler, who disapproved his friend's metaphor, and, in his usual fanciful and amusing strain,—“ I will not,” said he, “ make an old man of Saturn, nor slaves of his attendant globes, but rather let this tricorporate form be Geryon, so shall Galileo be Hercules, and the telescope his club; armed with which, he has conquered that distant planet, and dragged him from the remotest depths of nature, and exposed him to the view of all.” Galileo's glass was not of sufficient power to shew him the real constitution of this extraordinary planet; it was reserved for Huyghens, about the year 1656, to declare to the world that these supposed attendant stars are in fact part of a ring which surrounds, and yet is completely distinct from the body of Saturn;* and the still more accurate observations of Herschel have ascertained that it consists of two concentric rings revolving round the planet, and separated from each other by a space which our most powerful telescopes scarcely enable us to measure.

Galileo's second statement concluded with the remark, that “ in the other planets nothing new was to be observed;” but a month had scarcely elapsed, before he communicated to the world another enigma,

Hæc immatura à me jam frustra leguntur oy,

which, as he said, contained the announcement of a new phenomenon, in the highest degree important to the truth of the Copernican system. The interpretation of this is,

Cynthia figuræ æmulator mater amorum,

that is to say,—Venus rivals the appearances of the moon—for Venus being now arrived at that part of her orbit in which she is placed between the earth and the sun, and consequently, with only a part of her enlightened surface turned towards the earth, the telescope shewed her in a crescent form, like the moon in a similar position, and tracing her through the whole of her orbit round the sun, or at least so long as she was not invisible from his overpowering light, Galileo had the satisfaction of

seeing the enlightened portion in each position assume the form appropriate to that hypothesis. It was with reason, therefore, that he laid stress on the importance of this observation, which also established another doctrine scarcely less obnoxious to the Anti-Copernicans, namely, that a new point of resemblance was here found between the earth and one of the principal planets; and as the reflection from the earth upon the moon had shewn it to be luminous like the planets when subjected to the rays of the sun, so this change of apparent figure demonstrated that one of the planets not near the earth, and therefore probably all, were in their own nature not luminous, and only reflected the sun's light which fell upon them; an inference, of which the probability was still farther increased a few years later by the observation of the transit of Mercury over the sun's disc.

It is curious that only twenty-five years before this discovery of the phases (or appearances) of Venus, a commentator of Aristotle, under the name of Lucillus Philalthæus, had advanced the doctrine that all the planets except the moon are luminous of themselves, and in proof of his assertion had urged, “ that if the other planets and fixed stars received their light from the sun, they would, as they approached and receded from him, or as he approached and receded from them, assume the same phases as the moon, which, he adds, we have never yet observed.”—He further remarks, “ that Mercury and Venus would, in the supposed case of their being nearer the earth than the sun, eclipse it occasionally, just as eclipses are occasioned by the moon.” Perhaps it is still more remarkable, that these very passages, in which the reasoning is so correct, though the facts are too hastily taken for granted, (the common error of that school,) are quoted by Benedetti, expressly to shew the ignorance and presumption of the author. Copernicus, whose want of instruments had prevented him from observing the horned appearance of Venus when between the earth and sun, had perceived how formidable an obstacle the non-appearance of this phenomenon presented to his system; he endeavoured, though unsatisfactorily, to account for it by supposing that the rays of the sun passed freely through the body of the planet, and Galileo takes occasion to praise him for not being deterred from

* Huyghens announced his discovery in this form:
 a a a a a c c c c c d e e e e e g h i i i i i l l l l m n n n
 n n n n n o o o o o p p p r r r s t t t t t u u u u, which he
 afterwards recomposed into the sentence, *Annulo
 cingitur, tenui, plano, nusquam coherente, ad eclipti-
 cam inclinato.* De Saturni Lunâ. Hagæ, 1656.

adopting the system, which, on the whole, appeared to agree best with the phenomena, by meeting with some which it did not enable him to explain. Milton, whose poem is filled with allusions to Galileo and his astronomy, has not suffered this beautiful phenomenon to pass unnoticed. After describing the creation of the Sun, he adds:—

Hither, as to their fountain, other stars
Repairing, in their golden uras draw light,
And hence the morning planet gilds her horns.*

Galileo also assured himself, at the same time, that the fixed stars did not receive their light from the sun. This he ascertained by comparing the vividness of their light, in all positions, with the feebleness of that of the distant planets, and by observing the different degrees of brightness with which all the planets shone at different distances from the sun. The more remote planets did not, of course, afford equal facilities with Venus for so decisive an observation; but Galileo thought he observed, that when Mars was in quadratures, (or in the quarters, the middle points of his path on either side,) his figure varied slightly from a perfect circle. Galileo concludes the letter, in which he announces these last observations to his pupil Castelli, with the following expressions, shewing how justly he estimated the opposition they encountered:—"You almost make me laugh by saying that these clear observations are sufficient to convince the most obstinate: it seems you have yet to learn that long ago the observations were enough to convince those who are capable of reasoning, and those who wish to learn the truth; but that to convince the obstinate, and those who care for nothing beyond the vain applause of the stupid and senseless vulgar, not even the testimony of the stars would suffice, were they to descend on earth to speak for themselves. Let us then endeavour to procure some knowledge for ourselves, and rest contented with this sole satisfaction; but of advancing in popular opinion, or gaining the assent of the book-philosophers, let us abandon both the hope and the desire."

CHAPTER IX.

Account of the Academia Lincea—Del Cimento—Royal Society.

GALILEO's resignation of the mathematical professorship at Padua occasioned

much dissatisfaction to all those who were connected with that university. Perhaps not fully appreciating his desire of returning to his native country, and the importance to him and to the scientific world in general, of the complete leisure which Cosmo secured to him at Florence, (for by the terms of his diploma he was not even required to reside at Pisa, nor to give any lectures, except on extraordinary occasions, to sovereign princes and other strangers of distinction,) the Venetians remembered only that they had offered him an honourable asylum when almost driven from Pisa; that they had increased his salary to four times the sum which any previous professor had enjoyed; and, finally, by an almost unprecedented decree, that they had but just secured him in his post during the remainder of his life. Many took such offence as to refuse to have any further communication with him; and Sagredo, a constant friend of Galileo, wrote him word that he had been threatened with a similar desertion unless he should concur in the same peremptory resolution, which threats, however, Sagredo, at the same time, intimates his intention of braving. — Early in the year 1611, Galileo made his first appearance in Rome, where he was received with marks of distinguished consideration, and where all ranks were eager to share the pleasure of contemplating the new discoveries. "Whether we consider cardinal, prince, or prelate, he found an honourable reception from them all, and had their palaces as open and free to him as the houses of his private friends."* Among other distinctions he was solicited to become a member of the newly-formed philosophical society, the once celebrated *Accademia Lincea*, to which he readily assented. The founder of this society was Federico Cesi, the Marchese di Monticelli, a young Roman nobleman, the devotion of whose time and fortune to the interests of science has not been by any means rewarded with a reputation commensurate with his deserts. If the energy of his mind had been less worthily employed than in fostering the cause of science and truth, and in extending the advantages of his birth and fortune to as many as were willing to co-operate with him, the name of Federico Cesi might have appeared more prominently on the page of history. Cesi had scarcely completed

* B. vii. v. 364. Other passages may be examined in B. i. 286; iii. 565—590, 722—733; iv. 589; v. 261, 414; vii. 577; viii. 1—178.

• Salusbury, Math. Coll.

his 18th year, when, in 1603, he formed the plan of a philosophical society, which in the first instance consisted only of himself and three of his most intimate friends, Hecke, a Flemish physician, Stelluti, and Anastasio de Filiis. Cesi's father, the Duca d'Acquasparta, who was of an arbitrary and extravagant temper, considered such pursuits and associates as derogatory to his son's rank; he endeavoured to thwart the design by the most violent and unjustifiable proceedings, in consequence of which, Cesi in the beginning of 1605 privately quitted Rome. Hecke was obliged to leave Italy altogether from fear of the Inquisition, which was excited against him, and the academy was for a time virtually dissolved. The details of these transactions are foreign to the present narrative: it will be enough to mention that, in 1609, Cesi, who had never altogether abandoned his scheme, found the opposition decaying which he at first experienced, and with better success he renewed the plan which he had sketched six years before. A few extracts from the Regulations will serve to shew the spirit in which this distinguished society was conceived:—

“The Lyncean Society desires for its academicians, philosophers eager for real knowledge, who will give themselves to the study of nature, and especially to mathematics; at the same time it will not neglect the ornaments of elegant literature and philology, which like a graceful garment adorn the whole body of science.—In the pious love of wisdom, and to the praise of the most good and most high God, let the Lynceans give their minds, first to observation and reflection, and afterwards to writing and publishing.—It is not within the Lyncean plan to find leisure for recitations and declamatory assemblies; the meetings will neither be frequent nor full, and chiefly for transacting the necessary business of the society: but those who wish to enjoy such exercises will in no respect be hindered, provided they attend them as accessory studies, decently and quietly, and without making promises and professions of how much they are about to do. For there is ample philosophical employment for every one by himself, particularly if pains are taken in travelling and in the observation of natural phenomena, and in the book of nature which every one has at home, that is to say, the heavens and the earth; and enough may

be learned from the habits of constant correspondence with each other, and alternate offices of counsel and assistance.—Let the first fruits of wisdom be love; and so let the Lynceans love each other as if united by the strictest ties, nor suffer any interruption of this sincere bond of love and faith, emanating from the source of virtue and philosophy.—Let them add to their names the title of Lyncean, which has been advisedly chosen as a warning and constant stimulus, especially when they write on any literary subject, also in their private letters to their associates, and in general when any work comes from them wisely and well performed.—The Lynceans will pass over in silence all political controversies and quarrels of every kind, and wordy disputes, especially gratuitous ones, which give occasion to deceit, unfriendliness, and hatred; like men who desire peace, and seek to preserve their studies free from molestation, and to avoid every sort of disturbance. And if any one by command of his superiors, or from some other necessity, is reduced to handle such matters, since they are foreign to physical and mathematical science, and consequently alien to the object of the Academy, let them be printed without the Lyncean name.”*

The society which was eventually organized formed but a very trifling part of the comprehensive scheme which Cesi originally proposed to himself; it had been his wish to establish a scientific Order which should have corresponding lodges in the principal towns of Europe, and in other parts of the globe, each consisting of not more than five nor less than three members, besides an unlimited number of Academicians not restricted to any particular residence or regulations. The mortifications and difficulties to which he was subjected from his father's unprincipled behaviour, render it most extraordinary and admirable that he should have ventured to undertake even so much as he actually carried into execution. He promised to furnish to the members of his society such assistance as they might require in the prosecution of their respective researches, and also to defray the charges

* Perhaps it was to deprecate the hostility of the Jesuits that, at the close of these Regulations, the Lynceans are directed to address their prayers, among other Saints, especially to Ignatius Loyola, as to one who greatly favoured the interests of learning. Odescalchi. *Memorie dell' Acad. de' Lincei*, Roma. 1806.

of publishing such of their works as should be thought worthy of appearing with the common sanction. Such liberal offers were not likely to meet with an unfavourable reception: they were thankfully accepted by many well qualified to carry his design into execution, and Cesi was soon enabled formally to open his academy, the distinctive title of which he borrowed from the Lynx, with reference to the piercing sight which that animal has been supposed to possess. This quality seemed to him an appropriate emblem of those which he desired to find in his academicians, for the purpose of investigating the secrets of nature; and although, at the present day, the name may appear to border on the grotesque, it was conceived in the spirit of the age, and the fantastic names of the numberless societies which were rapidly formed in various parts of Italy far exceed whatever degree of quaintness may be thought to belong to the Lyncean name. The Inflamed—the Transformed—the Uneasy—the Humorists—the Fantastic—the Intricate—the Indolent—the Senseless—the Undeceived—the Valiant—the Æthereal Societies are selected from a vast number of similar institutions, the names of which, now almost their sole remains, are collected by the industry of Morhof and Tiraboschi*. The Humorists are named by Morhof as the only Italian philosophical society anterior to the Lynceans; their founder was Paolo Mancino, and the distinctive symbol which they adopted was rain dropping from a cloud, with the motto *Redit agmine dulci*;—their title is derived from the same metaphor. The object of their union appears to have been similar to that of the Lynceans, but they at no time attained to the celebrity to which Cesi's society rose from the moment of its incorporation. Cesi took the presidency for his life, and the celebrated Baptista Porta was appointed vice president at Naples. Stelluti acted as the legal representative of the society, with the title of procuratore. Of the other two original members Anastasio de Filiis was dead, and although Hecke returned to Italy in 1614, and rejoined the Academy, yet he was soon afterwards struck off the list in consequence of his lapsing into insanity. Among the academicians we find the names of Galileo, Fabio Co-

lonna, Lucas Valerio, Guiducci, Welsper, Giovanni Fabro, Terrentio, Virginio Cesarini, Ciampoli, Molitor, Cardinal Barberino, (nephew of Pope Urban VIII.) Stelliola, Salvati, &c.

The principal monument still remaining of the zeal and industry to which Cesi incited his academicians is the *Phytobasanos*, a compendium of the natural history of Mexico, which must be considered a surprising performance for the times in which it appeared. It was written by a Spaniard named Hernandez; and Reccho, who often has the credit of the whole work, made great additions to it. During fifty years the manuscript had been neglected, when Cesi discovered it, and employed Terrentio, Fabro, and Colonna, all Lynceans, to publish it enriched with their notes and emendations. Cesi himself published several treatises, two of which are extant; his *Tabulæ Phytosophicæ*, and a Dissertation on Bees entitled *Aptarum*, the only known copy of which last is in the library of the Vatican. His great work, *Theatrum Naturæ*, was never printed; a circumstance which tends to shew that he did not assemble the society round him for the purpose of ministering to his own vanity, but postponed the publication of his own productions to the labours of his coadjutors. This, and many other valuable works belonging to the academy existed in manuscript till lately in the Albani Library at Rome. Cesi collected, not a large, but an useful library for the use of the academy, (which was afterwards augmented on the premature death of Cesarini by the donation of his books); he filled a botanical garden with the rarer specimens of plants, and arranged a museum of natural curiosities; his palace at Rome was constantly open to the academicians; his purse and his influence were employed with equal liberality in their service.

Cesi's death, in 1632, put a sudden stop to the prosperity of the society, a consequence which may be attributed to the munificence with which he had from the first sustained it: no one could be found to fill his place in the princely manner to which the academicians were accustomed, and the society, after lingering some years under the nominal patronage of Urban VIII., gradually decayed, till, by the death of its principal members, and dispersion of the rest, it became entirely extinct*. Bianchi,

* Polyhistor Literarius, &c.—Storia della Letterat. Ital. The still existing society of Chaff, more generally known by its Italian title, Della Crusca, belongs to the same period.

* F. Colonnæ *Phytobasanos Jano Pianco Auctore*. Florent, 1744.

whose sketch of the academy was almost the only one till the appearance of Odescalchi's history, made an attempt to revive it in the succeeding century, but without any permanent effect. A society under the same name has been formed since 1784, and is still flourishing in Rome. Before leaving the subject it may be mentioned, that one of the earliest notices that Bacon's works were known in Italy is to be found in a letter to Cesi, dated 1625; in which Pozzo, who had gone to Paris with Cardinal Barberino, mentions having seen them there with great admiration, and suggests that Bacon would be a fit person to be proposed as a member of their society. After Galileo's death, three of his principal followers, Viviani, Torricelli, and Aggiunti formed the plan of establishing a similar philosophical society, and though Aggiunti and Torricelli died before the scheme could be realized, Viviani pressed it forward, and, under the auspices of Ferdinand II., formed a society, which, in 1657, merged in the famous *Accademia del Cimento*, or Experimental Academy. This latter held its occasional meetings at the palace of Ferdinand's brother, Leopold de' Medici: it was composed chiefly, if not entirely, of Galileo's pupils and friends. During the few years that this society lasted, one of the principal objects of which was declared to be the repetition and development of Galileo's experiments, it kept up a correspondence with the principal philosophers in every part of Europe, but when Leopold was, in 1666, created a cardinal, it appears to have been dissolved, scarcely ten years after its institution†. This digression may be excused in favour of so interesting an establishment as the *Accademia Lincea*, which preceded by half a century the formation of the Royal Society of London, and *Académie Française* of Paris.

These latter two are mentioned together; probably for the first time, by Salusbury. The passage is curious in an historical point of view, and worth extracting:—"In imitation of these societies, Paris and London have erected theirs of *Les Beaux Esprits*, and of the *Virtuosi*: the one by the countenance of the most eminent Cardinal Richelieu, the other by the royal encouragement of his sacred Majesty that now is. The *Beaux Esprits* have published sundry volumes of their moral and physiological conferences,

with the laws and history of their fellowship; and I hope the like in due time from our Royal Society; that so such as envie their fame and felicity, and such as suspect their ability and candor, may be silenced and disappointed in their deceptions and expectations."*

CHAPTER X.

Spots on the Sun—Essay on Floating Bodies—Scheiner—Change in Saturn.

GALILEO did not indulge the curiosity of his Roman friends by exhibiting only the wonders already mentioned, which now began to lose the gloss of novelty, but disclosed a new discovery, which appeared still more extraordinary, and, to the opposite faction, more hateful than anything of which he had yet spoken. This was the discovery, which he first made in the month of March, 1611, of dark spots on the body of the sun. A curious fact, and one which well serves to illustrate Galileo's superiority in seeing things simply as they are, is, that these spots had been observed and recorded centuries before he existed, but, for want of careful observation, their true nature had been constantly misapprehended. One of the most celebrated occasions was in the year 807 of our era, in which a dark spot is mentioned as visible on the face of the sun during seven or eight days. It was then supposed to be Mercury†. Kepler, whose astronomical knowledge would not suffer him to overlook that it was impossible that Mercury could remain so long in conjunction with the sun, preferred to solve the difficulty by supposing that, in Aimoin's original account, the expression was not *octo dies* (eight days), but *octoties*—a barbarous word, which he supposed to have been written for *octies* (eight times); and that the other accounts (in which the number of days mentioned is different) copying loosely from the first, had both mistaken the word, and misquoted the time which they thought they found mentioned there. It is impossible to look on this explanation as satisfactory, but Kepler, who at that time did not dream of spots on the sun, was perfectly contented with it. In 1609, he himself observed upon the sun a black spot, which he in like manner mistook for Mercury, and unluckily the day, being cloudy, did

* Nelli Saggio di Storia Letteraria Fiorentina, Lucca, 1759.]

• Salusbury's Math. Coll. vol. ii. London, 1664.

† Aimoini Hist. Francorum. Parisiæ. 1567.

not allow him to contemplate it sufficiently long to discover his error, which the slowness of its apparent motion would soon have pointed out.* He hastened to publish his supposed observation, but no sooner was Galileo's discovery of the solar spots announced, than he, with that candour which as much as his flighty disposition certainly characterized him at all times, retracted his former opinion, and owned his belief that he had been mistaken. In fact it is known from the more accurate theory which we now possess of Mercury's motions, that it did not pass over the sun's face at the time when Kepler thought he perceived it there.

Galileo's observations were in their consequences to him particularly unfortunate, as in the course of the controversy in which they engaged him, he first became personally embroiled with the powerful party, whose prevailing influence was one of the chief causes of his subsequent misfortunes. Before we enter upon that discussion, it will be proper to mention another famous treatise which Galileo produced soon after his return from Rome to Florence, in 1612. This is, his *Discourse on Floating Bodies*, which restored Archimedes' theory of hydrostatics, and has, of course, met with the opposition which few of Galileo's works failed to encounter. In the commencement, he thought it necessary to apologize for writing on a subject so different from that which chiefly occupied the public attention, and declared that he had been too closely occupied in calculating the periods of the revolutions of Jupiter's satellites to permit him to publish anything earlier. These periods he had succeeded in determining during the preceding year, whilst at Rome, and he now announced them to complete their circuits, the first in about 1 day, 18½ hours; the second in 3 days, 13 hours, 20 minutes; the third in 7 days, 4 hours; and the outermost in 16 days, 18 hours. All these numbers he gave merely as approximately true, and promised to continue his observations, for the purpose of correcting the results. He then adds an announcement of his recent discovery of the solar spots, "which, as they change their situation, offer a strong argument, either that the sun revolves on itself, or that, perhaps, other stars, like Venus and Mercury, revolve about it, invisible at all other times, on account of the small distance to which they are removed from

him." To this he afterwards subjoined, that, by continued observation, he had satisfied himself that these solar spots were in actual contact with the surface of the sun, where they are continually appearing and disappearing; that their figures were very irregular, some being very dark, and others not so black; that one would often divide into three or four, and, at other times, two, three, or more would unite into one; besides which, that they had all a common and regular motion, with which they revolved round with the sun, which turned upon its axis in about the time of a lunar month.

Having by these prefatory observations assuaged the public thirst for astronomical novelties, he ventures to introduce the principal subject of the treatise above mentioned. The question of floating bridges had been discussed at one of the scientific parties, assembled at the house of Galileo's friend Salviati, and the general opinion of the company appearing to be that the floating or sinking of a body depended principally upon its shape, Galileo undertook to convince them of their error. If he had not preferred more direct arguments, he might merely have told them that in this instance they were opposed to their favourite Aristotle, whose words are very unequivocal on the point in dispute. "Form is not the cause why a body moves downwards rather than upwards, but it does affect the swiftness with which it moves;"* which is exactly the distinction which those who called themselves Aristotelians were unable to perceive, and to which the opinions of Aristotle himself were not always true. Galileo states the discussion to have immediately arisen from the assertion of some one in the company, that condensation is the effect of cold, and ice was mentioned as an instance. On this, Galileo observed, that ice is rather water rarefied than condensed, the proof of which is, that ice always floats upon water.† It was replied, that the reason of this phenomenon was, not the superior lightness of the ice, but its incapacity, owing to its flat shape, to penetrate and overcome the resistance of the water. Galileo denied this, and asserted that ice of any shape would float upon water, and that, if a

* De Cælo. lib. 4.

† For a discussion of this singular phenomenon, see *Treatise on Heat*, p. 12; and it is worth while to remark in passing, what an admirable instance it affords of Galileo's instantaneous abandonment of a theory so soon as it became inconsistent with experiment.

flat piece of ice were forcibly taken to the bottom, it would of itself rise again to the surface. Upon this assertion it appears that the conversation became so clamorous, that Galileo thought it pertinent to commence his Essay with the following observation on the advantage of delivering scientific opinions in writing, "because in conversational arguments, either one or other party, or perhaps both, are apt to get overwarm, and to speak overloud, and either do not suffer each other to be heard, or else, transported with the obstinacy of not yielding, wander far away from the original proposition, and confound both themselves and their auditors with the novelty and variety of their assertions." After this gentle rebuke he proceeds with his argument, in which he takes occasion to state the famous hydrostatical paradox, of which the earliest notice is to be found in Stevin's works, a contemporary Flemish engineer, and refers it to a principle on which we shall enlarge in another chapter. He then explains the true theory of buoyancy, and refutes the false reasoning on which the contrary opinions were founded, with a variety of experiments.

The whole value and interest of experimental processes generally depends on a variety of minute circumstances, the detail of which would be particularly unsuited to a sketch like the present one. For those who are desirous of becoming more familiar with Galileo's mode of conducting an argument, it is fortunate that such a series of experiments exists as that contained in this essay; experiments which, from their simplicity, admit of being for the most part concisely enumerated, and at the same time possess so much intrinsic beauty and characteristic power of forcing conviction. They also present an admirable specimen of the talent for which Galileo was so deservedly famous, of inventing ingenious arguments in favour of his adversaries' absurd opinions before he condescended to crush them, shewing that nothing but his love of truth stood in the way of his being a more subtle sophist than any amongst them. In addition to these reasons for giving these experiments somewhat in detail, is the fact that all explanation of one of the principal phenomena to which they allude is omitted in many more modern treatises on Hydrostatics; and in some it is referred precisely to the false doctrines here confuted.

The marrow of the dispute is included in Galileo's assertion, that "The diversity of figure given to any solid cannot be in any way the cause of its absolutely sinking or floating; so that if a solid, when formed for example into a spherical figure, sinks or floats in the water, the same body will sink or float in the same water, when put into any other form. The breadth of the figure may indeed retard its velocity, as well of ascent as descent, and more and more according as the said figure is reduced to a greater breadth and thinness; but that it may be reduced to such a form as absolutely to put an end to its motion in the same fluid, I hold to be impossible. In this I have met with great contradictors who, producing some experiments, and in particular a thin board of ebony, and a ball of the same wood, and shewing that the ball in water sinks to the bottom*, and that the board if put lightly on the surface floats, have held and confirmed themselves in their opinion with the authority of Aristotle, that the cause of that rest is the breadth of the figure, unable by its small weight to pierce and penetrate the resistance of the water's thickness, which is readily overcome by the other spherical figure."—For the purpose of these experiments, Galileo recommends a substance such as wax, which may be easily moulded into any shape, and with which, by the addition of a few filings of lead, a substance may be readily made of any required specific gravity. He then declares that if a ball of wax of the size of an orange, or bigger, be made in this manner heavy enough to sink to the bottom, but so lightly that if we take from it only one grain of lead it returns to the top; and if the same wax be afterwards moulded into a broad and thin cake, or into any other figure, regular or irregular, the addition of the same grain of lead will always make it sink, and it will again rise when we remove the lead from it.—"But methinks I hear some of the adversaries raise a doubt upon my produced experiment: and, first, they offer to my consideration that the figure, as a figure simply, and disjunct from the matter, works no effect, but requires to be conjoined with the matter; and, moreover, not with every matter, but with those only wherewith it may be able to execute the desired operation. Just as we see by experience

* Ebony is one of the few woods heavier than water. See Treatise on Hydrostatics.

that an acute and sharp angle is more apt to cut than an obtuse; yet always provided that both one and the other are joined with a matter fit to cut, as for instance, steel. Therefore a knife with a fine and sharp edge cuts bread or wood with much ease, which it will not do if the edge be blunt and thick; but if, instead of steel, any one will take wax and mould it into a knife, undoubtedly he will never learn the effects of sharp and blunt edges, because neither of them will cut; the wax being unable, by reason of its flexibility, to overcome the hardness of the wood and bread. And therefore, applying the like discourse to our argument, they say that the difference of figure will shew different effects with regard to floating and sinking, but not conjoined with any kind of matter, but only with those matters which by their weight are able to overcome the viscosity of the water (like the ebony which they have selected); and he that will select cork or other light wood to form solids of different figures, would in vain seek to find out what operation figure has in sinking or floating, because all would swim, and that not through any property of this or that figure, but through the debility of the matter."

"When I begin to examine one by one all the particulars here produced, I allow not only that figures, simply as such, do not operate in natural things, but also that they are never separated from the corporeal substance, nor have I ever alleged them to be stript of sensible matter: and also I freely admit, that in our endeavours to examine the diversity of accidents which depend upon the variety of figures, it is necessary to apply them to matters which obstruct not the various operations of those various figures. I admit and grant that I should do very ill if I were to try the influence of a sharp edge with a knife of wax, applying it to cut an oak, because no sharpness in wax is able to cut that very hard wood. But yet, such an experiment of this knife would not be beside the purpose to cut curded milk, or other very yielding matter; nay, in such matters, the wax is more convenient than steel for finding the difference depending on the acuteness of the angles, because milk is cut indifferently with a razor, or a blunt knife. We must therefore have regard not only to the hardness, solidity, or weight of the bodies which, under different figures, are to divide some matters asunder; but also, on the other

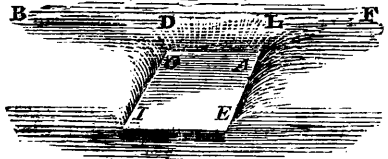
hand, to the resistance of the matter to be penetrated. And, since I have chosen a matter which does penetrate the resistance of the water, and in all figures descends to the bottom, my antagonists can charge me with no defect; nor (to revert to their illustration) have I attempted to test the efficacy of acuteness by cutting with matters unable to cut. I subjoin withal, that all caution, distinction, and election of matter would be superfluous and unnecessary, if the body to be cut should not at all resist the cutting: if the knife were to be used in cutting a mist, or smoke, one of paper would serve the purpose as well as one of Damascus steel; and I assert that this is the case with water, and that there is not any solid of such lightness or of such a figure, that being put on the water it will not divide and penetrate its thickness; and if you will examine more carefully your thin boards of wood, you will see that they have part of their thickness under water; and, moreover, you will see that the shavings of ebony, stone, or metal, when they float, have not only thus broken the continuity of the water, but are with all their thickness under the surface of it; and that more and more, according as the floating substance is heavier, so that a thin floating plate of lead will be lower than the surface of the surrounding water by at least twelve times the thickness of the plate, and gold will dive below the level of the water almost twenty times the thickness of the plate, as I shall shew presently."

In order to illustrate more clearly the non-resistance of water to penetration, Galileo then directs a cone to be made of wood or wax, and asserts that when it floats, either with its base or point in the water, the solid content of the part immersed will be the same, although the point is, by its shape, better adapted to overcome the resistance of the water to division, if that were the cause of the buoyancy. Or the experiment may be varied by tempering the wax with filings of lead, till it sinks in the water, when it will be found that in any figure the same cork must be added to it to raise it to the surface.— "This silences not my antagonists; but they say that all the discourse hitherto made by me imports little to them, and that it serves their turn, that they have demonstrated in one instance, and in such manner and figure as pleases them best, namely, in a board and a ball of ebony,

that one, when put into the water, sinks to the bottom, and that the other stays to swim at the top; and the matter being the same, and the two bodies differing in nothing but in figure, they affirm that with all perspicuity they have demonstrated and sensibly manifested what they undertook. Nevertheless I believe, and think I can prove that this very experiment proves nothing against my theory. And first it is false that the ball sinks, and the board not; for the board will sink too, if you do to both the figures as the words of our question require; that is, if you put them both *in* the water; for to be *in* the water implies to be placed in the water, and by Aristotle's own definition of place, to be placed imports to be environed by the surface of the ambient body; but when my antagonists shew the floating board of ebony, they put it not into the water, but upon the water; where, being detained by a certain impediment (of which more anon) it is surrounded, partly with water, partly with air, which is contrary to our agreement, for that was that the bodies should be in the water, and not part in the water, part in the air. I will not omit another reason, founded also upon experience, and, if I deceive not myself, conclusive against the notion that figure, and the resistance of the water to penetration have anything to do with the buoyancy of bodies. Choose a piece of wood or other matter, as for instance walnut-wood, of which a ball rises from the bottom of the water to the surface more slowly than a ball of ebony of the same size sinks, so that clearly the ball of ebony divides the water more readily in sinking than does the walnut in rising. Then take a board of walnut-tree equal to and like the floating ebony one of my antagonists; and if it be true that this latter floats by reason of the figure being unable to penetrate the water, the other of walnut-tree, without all question, if thrust to the bottom ought to stay there, as having the same impeding figure, and being less apt to overcome the said resistance of the water. But if we find by experience that not only the thin board, but every other figure of the same walnut-tree will return to float, as unquestionably we shall, then I must desire my opponents to forbear to attribute the floating of the ebony to the figure of the board, since the resistance of the water is the same in rising as in sinking, and the force of ascension of

the walnut-tree is less than the ebony's force for going to the bottom."

"Now, let us return to the thin plate of gold or silver, or the thin board of ebony, and let us lay it lightly upon the water, so that it may stay there without sinking, and carefully observe the effect. It will appear clearly that the plates are a considerable matter lower than the surface of the water which rises up, and makes a kind of rampart round them on every side, in the manner shewn in the annexed figure, in which B D L F repre-



sents the surface of the water, and A E I O the surface of the plate. But if it have already penetrated and overcome the continuity of the water, and is of its own nature heavier than the water, why does it not continue to sink, but stop and suspend itself in that little dimple that its weight has made in the water? My answer is, because in sinking till its surface is below the water which rises up in a bank round it, it draws after and carries along with it the air above it, so that that which in this case descends and is placed in the water, is not only the board of ebony or plate of iron, but a compound of ebony and air, from which composition results a solid no longer specifically heavier than the water, as was the ebony or gold alone. But, Gentlemen, we want the same matter; you are to alter nothing but the shape, and therefore have the goodness to remove this air, which may be done simply by washing the upper surface of the board, for the water having once got between the board and air will run together, and the ebony will go to the bottom; and if it does not, you have won the day. But methinks I hear some of my antagonists cunningly opposing this, and telling me that they will not on any account allow their board to be wetted, because the weight of the water so added, by making it heavier than it was before, draws it to the bottom, and that the addition of new weight is contrary to our agreement, which was that the matter should be the same."

"To this I answer first, that nobody can suppose bodies to be put into the water without their being wet, nor do I

wish to do more to the board than you may do to the ball. Moreover, it is not true that the board sinks on account of the weight of the water added in the washing; for I will put ten or twenty drops on the floating board, and so long as they stand separate it shall not sink; but if the board be taken out, and all that water wiped off, and the whole surface bathed with one single drop, and put it again upon the water, there is no question but it will sink, the other water running to cover it, being no longer hindered by the air. In the next place it is altogether false that water can in any way increase the weight of bodies immersed in it, for water has no weight in water, since it does not sink. Now, just as he who should say that brass by its own nature sinks, but that when formed into the shape of a kettle, it acquires from that figure a virtue of lying in the water without sinking, would say what is false, because that is not purely brass which then is put into the water, but a compound of brass and air; so is it neither more nor less false, that a thin plate of brass or ebony swims by virtue of its dilated and broad figure. Also I cannot omit to tell my opponents, that this conceit of refusing to bathe the surface of the board, might beget an opinion in a third person of a poverty of arguments on their side, especially as the conversation began about flakes of ice, in which it would be simple to require that the surfaces should be kept dry; not to mention that such pieces of ice, whether wet or dry, always float, and as my antagonists say, because of their shape."

"Some may wonder that I affirm this power to be in the air of keeping the plate of brass or silver above water, as if in a certain sense I would attribute to the air a kind of magnetic virtue for sustaining heavy bodies with which it is in contact. To satisfy all these doubts, I have contrived the following experiment to demonstrate how truly the air does support these solids; for I have found, when one of these bodies which floats when placed lightly on the water, is thoroughly bathed and sunk to the bottom, that by carrying down to it a little air without otherwise touching it in the least, I am able to raise and carry it back to the top, where it floats as before. To this effect I take a ball of wax, and with a little lead make it just heavy enough to sink very slowly to the bottom, taking care that its surface be

quite smooth and even. This, if put gently into the water, submerges almost entirely, there remaining visible only a little of the very top, which, so long as it is joined to the air, keeps the ball afloat; but if we take away the contact of the air by wetting this top, the ball sinks to the bottom, and remains there. Now to make it return to the surface by virtue of the air which before sustained it, thrust into the water a glass, with the mouth downwards, which will carry with it the air it contains; and move this down towards the ball, until you see by the transparency of the glass that the air has reached the top of it; then gently draw the glass upwards, and you will see the ball rise, and afterwards stay on the top of the water, if you carefully part the glass and water without too much disturbing it*. There is therefore a certain affinity between the air and other bodies, which holds them united, so that they separate not without a kind of violence, just as between water and other bodies; for in drawing them wholly out of the water, we see the water follow them, and rise sensibly above the level before it quits them." Having established this principle by this exceedingly ingenious and convincing experiment, Galileo proceeds to shew from it what must be the dimensions of a plate of any substance which will float as the wax does, assuming in each case that we know the greatest height at which the rampart of water will stand round it. In like manner he shows that a pyramidal or conical figure may be made of any substance, such that by help of the air, it shall rest upon the water without wetting more than its base; and that we may so form a cone of any substance that it shall float if placed gently on the surface, with its point downwards, whereas no care or pains will enable it to float with its base downwards, owing to the different proportions of air which in the two positions remain connected with it. With this parting blow at his antagonist's theory we close our extracts from this admirable essay.

The first elements of the theory of running waters were reserved for Castelli, an intimate friend and pupil of Galileo. On the present occasion, Castelli appeared as the ostensible author of a de-

* In making this very beautiful experiment, it is best to keep the glass a few seconds in the water, to give time for the surface of the ball to dry. It will also succeed with a light needle, if carefully conducted.

fence against the attacks made by Vincenzo di Grazia and by Lodovico delle Columbe (the author of the crystalline composition of the moon) on the obnoxious theory. After destroying all the objections which they produced, the writer tauntingly bids them remember, that he was merely Galileo's pupil, and consider how much more effectually Galileo himself would have confuted them, had he thought it worth while. It was not known till several years after his death, that this Essay was in fact written by Galileo himself.*

These compositions merely occupied the leisure time which he could withhold from the controversy on the solar spots to which we have already alluded. A German Jesuit named Christopher Scheiner, who was professor of mathematics at Ingolstadt, in imitation of Galileo had commenced a series of observations on them, but adopted the theory which, as we have seen, Galileo had examined and rejected, that these spots are planets circulating at some distance from the body of the sun. The same opinion had been taken up by a French astronomer, who in honour of the reigning family called them Borbonian stars. Scheiner promulgated his notions in three letters, addressed to their common friend Welser, under the quaint signature of "*Apelles latens post tabulam.*" Galileo replied to Scheiner's letters by three others, also addressed to Welser, and although the dispute was carried on amid mutual professions of respect and esteem, it laid the foundation of the total estrangement which afterwards took place between the two authors. Galileo's part of this controversy was published at Rome by the Lyncean Academy in 1613. To the last of his letters, written in December, 1612, is annexed a table of the expected positions of Jupiter's satellites during the months of March and April of the following year, which, imperfect as it necessarily was, cannot be looked upon without the greatest interest.

In the same letter it is mentioned that Saturn presented a novel appearance, which, for an instant, almost induced Galileo to mistrust the accuracy of his earlier observations. The lateral appendages of this planet had disappeared, and the accompanying extract will show the uneasiness which Galileo could not conceal at the sight of this phenome-

non, although it is admirable to see the contempt with which, even in that trying moment, he expresses his consciousness that his adversaries were unworthy of the triumph they appeared on the point of celebrating.—“Looking on Saturn within these few days, I found it solitary, without the assistance of its accustomed stars, and in short, perfectly round and defined like Jupiter, and such it still remains. Now what can be said of so strange a metamorphosis? are perhaps the two smaller stars consumed, like the spots on the sun? have they suddenly vanished and fled? or has Saturn devoured his own children? or was the appearance indeed fraud and illusion, with which the glasses have for so long a time mocked me, and so many others who have often observed with me. Now perhaps the time is come to revive the withering hopes of those, who, guided by more profound contemplations, have fathomed all the fallacies of the new observations and recognised their impossibility! I cannot resolve what to say in a chance so strange, so new, and so unexpected; the shortness of the time, the unexampled occurrence, the weakness of my intellect, and the terror of being mistaken, have greatly confounded me.” These first expressions of alarm are not to be wondered at; however, he soon recovered courage, and ventured to foretell the periods at which the lateral stars would again show themselves, protesting at the same time, that he was in no respect to be understood as classing this prediction among the results which depend on certain principles and sound conclusions, but merely on some conjectures which appeared to him probable. From one of the Dialogues on the System, we learn that this conjecture was, that Saturn might revolve upon his axis, but the period which he assumed is very different from the true one, as might be expected from its being intended to account for a phenomenon of which Galileo had not rightly apprehended the character.

He closed this letter with renewed professions of courtesy and friendship towards Apelles, enjoining Welser not to communicate it without adding his excuses, if he should be thought to dissent too violently from his antagonist's ideas, declaring that his only object was the discovery of truth, and that he had freely exposed his own opinion, which he was still ready to change, so soon as his errors should be made manifest to him;

* Nelli, Saggio di Stor. Liter. Fiorent.

and that he would consider himself under special obligation to any one who would be kind enough to discover and correct them. These letters were written from the villa of his friend Salviati at Selve near Florence, where he passed great part of his time, particularly during his frequent indispositions, conceiving that the air of Florence was prejudicial to him. Cesi was very anxious for their appearance, since they were (in his own words) so hard a morsel for the teeth of the Peripatetics, and he exhorted Galileo, in the name of the society, "to continue to give them, and the nameless Jesuit, something to gnaw."

CHAPTER XI.

Letter to Christina, Arch-Duchess of Tuscany—Caccini—Galileo revisits Rome—Inchoffer—Problem of Longitudes.

THE uncompromising boldness with which Galileo published and supported his opinions, with little regard to the power and authority of those who advocated the contrary doctrines, had raised against him a host of enemies, who each had objections to him peculiar to themselves, but who now began to perceive the policy of uniting their strength in the common cause, to crush if possible so dangerous an innovator. All the professors of the old opinions, who suddenly found the knowledge on which their reputation was founded struck from under them, and who could not reconcile themselves to their new situation of learners, were united against him; and to this powerful cabal was now added the still greater influence of the jesuits and pseudo-theological party, who fancied they saw in the spirit of Galileo's writings the same inquisitive temper which they had already found so inconvenient in Luther and his adherents. The alarm became greater every day, inasmuch as Galileo had succeeded in training round him a numerous band of followers who all appeared imbued with the same dangerous spirit of innovation, and his favourite scholars were successful candidates for professorships in many of the most celebrated universities of Italy.

At the close of 1613, Galileo addressed a letter to his pupil, the Abbé Castelli, in which he endeavoured to shew that there is as much difficulty in reconciling the Ptolemaic as the Copernican system of the world with the astronomical ex-

pressions contained in the Scriptures, and asserted, that the object of the Scriptures not being to teach astronomy, such expressions are there used as would be intelligible and conformable to the vulgar belief, without regard to the true structure of the universe; which argument he afterwards amplified in a letter addressed to Christina, Grand Duchess of Tuscany, the mother of his patron Cosmo. He discourses on this subject with the moderation and good sense which so peculiarly characterized him. "I am," says he, "inclined to believe, that the intention of the sacred Scriptures is to give to mankind the information necessary for their salvation, and which, surpassing all human knowledge, can by no other means be accredited than by the mouth of the Holy Spirit. But I do not hold it necessary to believe, that the same God who has endowed us with senses, with speech, and intellect, intended that we should neglect the use of these, and seek by other means for knowledge which they are sufficient to procure us; especially in a science like astronomy, of which so little notice is taken in the Scriptures, that none of the planets, except the sun and moon, and, once or twice only, Venus under the name of Lucifer, are so much as named there. This therefore being granted, methinks that in the discussion of natural problems we ought not to begin at the authority of texts of Scripture, but at sensible experiments and necessary demonstrations: for, from the divine word, the sacred Scripture and nature did both alike proceed, and I conceive that, concerning natural effects, that which either sensible experience sets before our eyes, or necessary demonstrations do prove unto us, ought not upon any account to be called into question, much less condemned, upon the testimony of Scriptural texts, which may under their words couch senses seemingly contrary thereto.

"Again, to command the very professors of astronomy that they of themselves see to the confuting of their own observations and demonstrations, is to enjoin a thing beyond all possibility of doing; for it is not only to command them not to see that which they do see, and not to understand that which they do understand, but it is to order them to seek for and to find the contrary of that which they happen to meet with. I would entreat these wise and prudent fathers, that they would with all diligence consi-

der the difference that is between opinionative and demonstrative doctrines: to the end that well weighing in their minds with what force necessary inferences urge us, they might the better assure themselves that it is not in the power of the professors of demonstrative sciences to change their opinions at pleasure, and adopt first one side and then another; and that there is a great difference between commanding a mathematician or a philosopher, and the disposing of a lawyer or a merchant; and that the demonstrated conclusions touching the things of nature and of the heavens cannot be changed with the same facility as the opinions are touching what is lawful or not in a contract, bargain, or bill of exchange. Therefore, first let these men apply themselves to examine the arguments of Copernicus and others, and leave the condemning of them as erroneous and heretical to whom it belongeth; yet let them not hope to find such rash and precipitous determinations in the wary and holy fathers, or in the absolute wisdom of him who cannot err, as those into which they suffer themselves to be hurried by some particular affection or interest of their own. In these and such other positions, which are not directly articles of faith, certainly no man doubts but His Holiness hath always an absolute power of admitting or condemning them, but it is not in the power of any creature to make them to be true or false, otherwise than of their own nature, and in fact they are." We have been more particular in extracting these passages, because it has been advanced by a writer of high reputation, that the treatment which Galileo subsequently experienced was solely in consequence of his persisting in the endeavour to prove that the Scriptures were reconcileable with the Copernican theory*, whereas we see here distinctly that, for the reasons we have briefly stated, he regarded this as a matter altogether indifferent and beside the question.

Galileo had not entered upon this discussion till driven to it by a most indecent attack, made on him from the

pulpit, by a Dominican friar named Caccini, who thought it not unbecoming his habit or religion to play upon the words of a Scriptural text for the purpose of attacking Galileo and his partisans with more personality*. Galileo complained formally of Caccini's conduct to Luigi Maraffi the general of the Dominicans, who apologised amply to him, adding that he himself was to be pitted for finding himself implicated in all the brutal conduct of thirty or forty thousand monks.

In the mean time, the inquisitors at Rome had taken the alarm, and were already, in 1615, busily employed in collecting evidence against Galileo. Lorini, a brother Dominican of Caccini, had given them notice of the letter to Castelli of which we have spoken, and the utmost address was employed to get the original into their hands, which attempt however was frustrated, as Castelli had returned it to the writer. Caccini was sent for to Rome, settled there with the title of Master of the Convent of St. Mary of Minerva, and employed to put the depositions against Galileo into order. Galileo was not at this time fully aware of the machinations against him, but suspecting something of their nature, he solicited and obtained permission from Cosmo, towards the end of 1615, to make a journey to Rome, for the purpose of more directly confronting his enemies in that city. There was a rumour at the time that this visit was not voluntary, but that Galileo had been cited to appear at Rome. A contemporary declares that he heard this from Galileo himself: at any rate, in a letter which Galileo shortly afterwards wrote to Picchena, the Grand Duke's secretary, he expresses himself well satisfied with the results of this step, whether forced or not, and Querenghi thus describes to the Cardinal d'Este the public effect of his appearance: "Your Eminence would be delighted with Galileo if you heard him holding forth, as he often does, in the midst of fifteen or twenty, all violently attacking him, sometimes in one house, sometimes in another. But he is armed after such fashion that he laughs all of them to scorn—and even if the novelty of his opinions prevents entire persuasion, at least he convicts of emptiness most of the arguments with which his adversaries endeavour to overwhelm him. He was particularly admi-

* Ce philosophe (Galilée) ne fut point persécuté comme bon astronome, mais comme mauvais théologien. C'est son entêtement à vouloir concilier la Bible avec Copernic qui lui donna des juges. Mais vingt auteurs, surtout parmi les protestants, ont écrit que Galilée fut persécuté et emprisonné pour avoir soutenu que la terre tourne autour du soleil, que ce système a été condamné par l'inquisition comme faux, erroné et contraire à la Bible, &c.—Bergier, *Encyclopédie Méthodique*, Paris, 1790, Art. *SCIENCES HUMAINES*.

* Viri Galilæi, quid statis adspicientes in cœlum. *Acts* i. 11.

nable on Monday last, in the house of Signor Frederico Ghisilieri; and what especially pleased me was, that before replying to the contrary arguments, he amplified and enforced them with new grounds of great plausibility, so as to leave his adversaries in a more ridiculous plight when he afterwards overturned them all."

Among the malicious stories which were put into circulation, it had been said, that the Grand Duke had withdrawn his favour, which emboldened many, who would not otherwise have ventured on such open opposition, to declare against Galileo. His appearance at Rome, where he was lodged in the palace of Cosmo's ambassador, and whence he kept up a close correspondence with the Grand Duke's family, put an immediate stop to rumours of this kind. In little more than a month he was apparently triumphant, so far as regarded himself; but the question now began to be agitated whether the whole system of Copernicus ought not to be condemned as impious and heretical. Galileo again writes to Picchena, "so far as concerns the clearing of my own character, I might return home immediately; but although this new question regards me no more than all those who for the last eighty years have supported these opinions both in public and private, yet, as perhaps I may be of some assistance in that part of the discussion which depends on the knowledge of truths ascertained by means of the sciences which I profess, I, as a zealous and Catholic Christian, neither can nor ought to withhold that assistance which my knowledge affords; and this business keeps me sufficiently employed." De Lambre, whose readiness to depreciate Galileo's merit we have already noticed and lamented, sneeringly and ungratefully remarks on this part of his life, that "it was scarcely worth while to compromise his tranquillity and reputation, in order to become the champion of a truth which could not fail every day to acquire new partisans by the natural effect of the progress of enlightened opinions." We need not stop to consider what the natural effects might have been if none had at any time been found who thought their tranquillity worthily offered up in such a cause.

It has been hinted by several, and is indeed probable, that Galileo's stay at Rome rather injured the cause (so far as provoking the inquisitorial censures could injure it) which it was his earnest

desire to serve, for we cannot often enough repeat the assertion, that it was not the doctrine itself, so much as the free, unyielding manner in which it was supported, which was originally obnoxious. Copernicus had been allowed to dedicate his great work to Pope Paul III., and from the time of its first appearance under that sanction in 1543, to the year 1616, of which we are now writing, this theory was left in the hands of mathematicians and philosophers, who alternately attacked and defended it without receiving either support or molestation from ecclesiastical decrees. But this was henceforward no longer the case, and a higher, degree of importance was given to the controversy from the religious heresies which were asserted to be involved in the new opinions. We have already given specimens of the so called philosophical arguments brought against Copernicus; and the reader may be curious to know the form of the theological ones. Those which we select are taken from a work, which indeed did not come forth till the time of Galileo's third visit to Rome, but it is relative to the matter now before us, as it professed to be, and its author's party affected to consider it, a complete refutation of the letters to Castelli and the Archduchess Christina*.

It was the work of a Jesuit, Melchior Inchoffer, and it was greatly extolled by his companions, "as differing so entirely from the pruriency of the Pythagorean writings." He quotes with approbation an author who, first referring to the first verse of Genesis for an argument that the earth was not created till after the heavens, observes that the whole question is thus reduced to the examination of this purely geometrical difficulty—In the formation of a sphere, does the centre or circumference first come into existence? If the latter (which we presume Melchior's friend found good reason for deciding upon), the consequence is inevitable. The earth is in the centre of the universe.

It may not be unprofitable to contrast the extracts which we have given from Galileo's letters on the same subject with the following passage, which appears one of the most subtle and argumen-

* *Tractatus Syllepticus*. Romæ, 1633. The title-page of this remarkable production is decorated with an emblematical figure, representing the earth included in a triangle; and in the three corners, grasping the globe with their fore feet, are placed three bees, the arms of Pope Urban VIII. who condemned Galileo and his writings. The motto is "*His fixa quiescit*," "Fixed by these it is at rest."

tative which is to be found in Melchior's book. He *professes* to be enumerating and refuting the principal arguments which the Copernicans adduced for the motion of the earth. "Fifth argument. Hell is in the centre of the earth, and in it is a fire tormenting the damned ; therefore it is absolutely necessary that the earth is moveable. The antecedent is plain." (Inchoffer then quotes a number of texts of Scripture on which, according to him, the Copernicans relied in proof of this part of the argument.) "The consequent is proved: because fire is the cause of motion, for which reason Pythagoras, who, as Aristotle reports, puts the place of punishment in the centre, perceived that the earth is animate and endowed with action. I answer, even allowing that hell is in the centre of the earth, and a fire in it, I deny the consequence: and for proof I say, if the argument is worth any thing, it proves also that lime-kilns, ovens, and fire-grates are animated and spontaneously moveable. I say, *even allowing* that hell is in the centre of the earth: for Gregory, book 4, dial. chap. 42, says, that he dare not decide rashly on this matter, although he thinks more probable the opinion of those who say that it is under the earth. St. Thomas, in Opusc. 10, art. 31, says: Where hell is, whether in the centre of the earth or at the surface, does not in my opinion, relate to any article of faith ; and it is superfluous to be solicitous about such things, either in asserting or denying them. And Opusc. 11, art. 24, he says, that it seems to him that nothing should be rashly asserted on this matter, particularly as Augustin thinks that nobody knows where it is ; but I do not, says he, think that it is in the centre of the earth. I should be loth, however, that it should be hence inferred by *some people* that hell is in the earth, that we are ignorant where hell is, and therefore that the situation of the earth is also unknown, and, in conclusion, that it cannot therefore be the centre of the universe. The argument shall be retorted in another fashion: for if the place of the earth is unknown, it cannot be said to be in a great circle, so as to be moved round the sun. Finally I say that in fact it is known where the earth is."

It is not impossible that some persons adopted the Copernican theory, from an affectation of singularity and freethinking, without being able to give

very sound reasons for their change of opinion, of whom we have an instance in Origanus, the astrological instructor of Wallenstein's famous attendant Seni, who edited his work. His arguments in favour of the earth's motion are quite on a level with those advanced on the opposite side in favour of its immobility ; but we have not found any traces whatever of such absurdities as these having been urged by any of the leaders of that party, and it is far more probable that they are the creatures of Melchior's own imagination. At any rate it is worth remarking how completely he disregards the real physical arguments, which he ought, in justice to his cause, to have attempted to controvert. His book was aimed at Galileo and his adherents, and it is scarcely possible that he could seriously persuade himself that he was stating and overturning arguments similar to those by which Galileo had made so many converts to the opinions of Copernicus. Whatever may be our judgment of his candour, we may at least feel assured that if this had indeed been a fair specimen of Galileo's philosophy, he might to the end of his life have taught that the earth moved round the sun, or if his fancy led him to a different hypothesis, he might like the Abbé Baliani have sent the earth spinning round the stationary moon, and like him have remained unmolested by pontifical censures. It is true that Baliani owned his opinion to be much shaken, on observing it to be opposed to the decree of those in whose hands was placed the power of judging articles of faith. But Galileo's uncompromising spirit of analytical investigation, and the sober but invincible force of reasoning with which he beat down every sophism opposed to him, the instruments with which he worked, were more odious than the work itself, and the condemnation which he had vainly hoped to avert was probably on his very account accelerated.

Galileo, according to his own story, had in March 1616 a most gracious audience of the pope, Paul V., which lasted for nearly an hour, at the end of which his holiness assured him, that the Congregation were no longer in a humour to listen lightly to calumnies against him, and that so long as he occupied the papal chair, Galileo might think himself out of all danger. But nevertheless he was not allowed to return home, without receiving formal notice not to teach the opinions of Co-

pernicus, that the sun is in the centre of the system, and that the earth moves about it, from that time forward, in any manner. That these were the literal orders given to Galileo will be presently proved from the recital of them in the famous decree against him, seventeen years later. For the present, his letters which we have mentioned, as well as one of a similar tendency by Foscarini, a Carmelite friar—a commentary on the book of Joshua by a Spaniard named Diego Zuniga—Kepler's Epitome of the Copernican Theory—and Copernicus's own work, were inserted in the list of forbidden books, nor was it till four years afterwards, in 1620, that, on reconsideration, Copernicus was allowed to be read with certain omissions and alterations then decided upon.

Galileo quitted Rome scarcely able to conceal his contempt and indignation. Two years afterwards this spirit had but little subsided, for in forwarding to the Archduke Leopold his Theory of the Tides, he accompanied it with the following remarks:—"This theory occurred to me when in Rome, whilst the theologians were debating on the prohibition of Copernicus's book, and of the opinion maintained in it of the motion of the earth, which I at that time believed; until it pleased those gentlemen to suspend the book, and declare the opinion false and repugnant to the Holy Scriptures. Now, as I know how well it becomes me to obey and believe the decisions of my superiors, which proceed out of more profound knowledge than the weakness of my intellect can attain to, this theory which I send you, which is founded on the motion of the earth, I now look upon as a fiction and a dream, and beg your highness to receive it as such. But, as poets often learn to prize the creations of their fancy, so, in like manner, do I set some value on this absurdity of mine. It is true that when I sketched this little work, I did hope that Copernicus would not, after 80 years, be convicted of error, and I had intended to develope and amplify it farther, but a voice from heaven suddenly awakened me, and at once annihilated all my confused and entangled fancies."

It might have been predicted, from the tone of this letter alone, that it would not be long before Galileo would again bring himself under the censoring notice of the astronomical hierarchy, and indeed he had, so early as 1610, collected some of the materials for the work which

caused the final explosion, and on which he now employed himself with as little intermission as the weak state of his health permitted.

He had been before this time engaged in a correspondence with the court of Spain, on the method of observing longitudes at sea, for the solution of which important problem Philip III. had offered a considerable reward, an example which has since been followed in our own and other countries. Galileo had no sooner discovered Jupiter's satellites, than he recognized the use which might be made of them for that purpose, and devoted himself with peculiar assiduity to acquiring as perfect a knowledge as possible of their revolutions. The reader will easily understand how they were to be used, if their motion could be so well ascertained as to enable Galileo at Florence to predict the exact times at which any remarkable configurations would occur, as, for instance, the times at which any one of them would be eclipsed by Jupiter. A mariner who in the middle of the Atlantic should observe the same eclipse, and compare the time of night at which he made the observation (which he might know by setting his watch by the sun on the preceding day) with the time mentioned in the predictions, would, from the difference between the two, learn the difference between the hour at Florence and the hour at the place where the ship at that time happened to be. As the earth turns uniformly round through 360° of longitude in 24 hours, that is, through 15° in each hour, the hours, minutes, and seconds of time which express this difference must be multiplied by 15, and the respective products will give the degrees, minutes, and seconds of longitude, by which the ship was then distant from Florence. This statement is merely intended to give those who are unacquainted with astronomy, a general idea of the manner in which it was proposed to use these satellites. Our moon had already been occasionally employed in the same way, but the comparative frequency of the eclipses of Jupiter's moons, and the suddenness with which they disappear, gives a decided advantage to the new method. Both methods were embarrassed by the difficulty of observing the eclipses at sea. In addition to this, it was requisite, in both methods, that the sailors should be provided with accurate means of knowing the hour, wherever they might chance to be, which was far

from being the case, for although (in order not to interrupt the explanation) we have above spoken of their *watches*, yet the watches and clocks of that day were not such as could be relied on sufficiently, during the interval which must necessarily occur between the two observations. This consideration led Galileo to reflect on the use which might be made of his pendulum for this purpose; and, with respect to the other difficulty, he contrived a peculiar kind of telescope, with which he flattered himself, somewhat prematurely, that it would be as easy to observe on ship-board as on shore.

During his stay at Rome, in 1615, and the following year, he disclosed some of these ideas to the Conte di Lemos, the viceroy of Naples, who had been president of the council of the Spanish Indies, and was fully aware of the importance of the matter. Galileo was in consequence invited to communicate directly with the Duke of Lerma, the Spanish minister, and instructions were accordingly sent by Cosmo, to the Conte Orso d'Elci, his ambassador at Madrid, to conduct the business there. Galileo entered warmly into the design, of which he had no other means of verifying the practicability; for as he says in one of his letters to Spain—"Your excellency may well believe that if this were an undertaking which I could conclude by myself, I would never have gone about begging favours from others; but in my study there are neither seas, nor Indies, nor islands, nor ports, nor shoals, nor ships, for which reason I am compelled to share the enterprise with great personages, and to fatigue myself to procure the acceptance of that, which ought with eagerness to be asked of me; but I console myself with the reflection that I am not singular in this, but that it commonly happens, with the exception of a little reputation, and that too often obscured and blackened by envy, that the least part of the advantage falls to the share of the inventors of things, which afterwards bring great gain, honours, and riches to others; so that I will never cease on my part to do every thing in my power, and I am ready to leave here all my comforts, my country, my friends, and family, and to cross over into Spain, to stay as long as I may be wanted in Seville, or Lisbon, or wherever it may be convenient, to implant the knowledge of this method, provided that

due assistance and diligence be not wanting on the part of those who are to receive it, and who should solicit and foster it." But he could not, with all his enthusiasm, rouse the attention of the Spanish court. The negotiation languished, and although occasionally renewed during the next ten or twelve years, was never brought to a satisfactory issue. Some explanation of this otherwise unaccountable apathy of the Spanish court, with regard to the solution of a problem which they had certainly much at heart, is given in Nelli's life of Galileo; where it is asserted, on the authority of the Florentine records, that Cosmo required privately from Spain, (in return for the permission granted for Galileo to leave Florence, in pursuance of this design,) the privilege of sending every year from Leghorn two merchantmen, duty free, to the Spanish Indies.

CHAPTER XII.

Controversy on Comets—Saggiatore—Galileo's reception by Urban VIII—His family.

THE year 1618 was remarkable for the appearance of three comets, on which almost every astronomer in Europe found something to say and write. Galileo published some of his opinions with respect to them, through the medium of Mario Guiducci. This astronomer delivered a lecture before the Florentine academy, the heads of which he was supposed to have received from Galileo, who, during the whole time of the appearance of these comets, was confined to his bed by severe illness. This essay was printed in Florence *at the sign of The Medicean Stars*.* What principally deserves notice in it, is the opinion of Galileo, that the distance of a comet cannot be safely determined by its parallax, from which we learn that he inclined to believe that comets are nothing but meteors occasionally appearing in the atmosphere, like rainbows, parhelia, and similar phenomena. He points out the difference in this respect between a fixed object, the distance of which may be calculated from the difference of direction in which two observers (at a known distance from each other) are obliged to turn themselves in order to see it, and meteors like the rainbow, which are simultaneously formed in different drops of water for each spectator, so that two

* In Firenze nella Stamperia di Pietro Cecconcelli alle stelle Medicee, 1619.

observers in different places are in fact contemplating different objects. He then warns astronomers not to engage with too much warmth in a discussion on the distance of comets before they assure themselves to which of these two classes of phenomena they are to be referred. The remark is in itself perfectly just, although the opinion which occasioned it is now as certainly known to be erroneous, but it is questionable whether the observations which, up to that time, had been made upon comets, were sufficient, either in number or quality, to justify the censure which has been cast on Galileo for his opinion. The theory, moreover, is merely introduced as an hypothesis in Guiducci's essay. The same opinion was for a short time embraced by Cassini, a celebrated Italian astronomer, invited by Louis XIV. to the Observatory at Paris, when the science was considerably more advanced, and Newton, in his *Principia*, did not think it unworthy of him to show on what grounds it is untenable.

Galileo was become the object of animosity in so many quarters that none of his published opinions, whether correct or incorrect, ever wanted a ready antagonist. The champion on the present occasion was again a Jesuit; his name was Oratio Grassi, who published *The Astronomical and Philosophical Balance*, under the disguised signature of Lotario Sarsi.

Galileo and his friends were anxious that his reply to Grassi should appear as quickly as possible, but his health had become so precarious and his frequent illnesses occasioned so many interruptions, that it was not until the autumn of 1623 that *Il Saggiatore* (or *The Assayer*) as he called his answer, was ready for publication. This was printed by the Lyncean Academy, and as Cardinal Maffeo Barberino, who had just been elected Pope, (with the title of Urban VIII.) had been closely connected with that society, and was also a personal friend of Cesi and of Galileo, it was thought a prudent precaution to dedicate the pamphlet to him. This essay enjoys a peculiar reputation among Galileo's works, not only for the matter contained in it, but also for the style in which it is written; insomuch that Andr  s*, when eulogizing Galileo as one of the earliest who adorned philosophical truths with the graces and ornaments of language, expressly instances the *Saggiatore*,

which is also quoted by Frisi and Algarotti, as a perfect model of this sort of composition. In the latter particular, it is unsafe to interfere with the decisions of an Italian critic; but with respect to its substance, this famous composition scarcely appears to deserve its preeminent reputation. It is a prolix and rather tedious examination of Grassi's Essay; nor do the arguments seem so satisfactory, nor the reasonings so compact as is generally the case in Galileo's other writings. It does however, like all his other works, contain many very remarkable passages, and the celebrity of this production requires that we should extract one or two of the most characteristic.

The first, though a very short one, will serve to shew the tone which Galileo had taken with respect to the Copernican system since its condemnation at Rome, in 1616. "In conclusion, since the motion attributed to the earth, which I, as a pious and Catholic person, consider most false, and not to exist, accommodates itself so well to explain so many and such different phenomena, I shall not feel sure, unless Sarsi descends to more distinct considerations than those which he has yet produced, that, false as it is, it may not just as deludingly correspond with the phenomena of comets."

Sarsi had quoted a story from Suidas in support of his argument that motion always produces heat, how the Babylonians used to cook their eggs by whirling them in a sling; to which Galileo replies: "I cannot refrain from marvelling that Sarsi will persist in proving to me, by authorities, that which at any moment I can bring to the test of experiment. We examine witnesses in things which are doubtful, past, and not permanent, but not in those things which are done in our own presence. If discussing a difficult problem were like carrying a weight, since several horses will carry more sacks of corn than one alone will, I would agree that many reasoners avail more than one; but *discoursing* is like *coursing*, and not like carrying, and one barb by himself will run farther than a hundred Friesland horses. When Sarsi brings up such a multitude of authors, it does not seem to me that he in the least degree strengthens his own conclusions, but he ennobles the cause of Signor Mario and myself, by shewing that we reason better than many men of established reputation. If Sarsi insists that I believe,

* Dell' Origine d'ogni Literatura: Parma, 1797.

on Suidas' credit, that the Babylonians cooked eggs by swiftly whirling them in a sling, I will believe it; but I must needs say, that the cause of such an effect is very remote from that to which it is attributed, and to find the true cause I shall reason thus. If an effect does not follow with us which followed with others at another time, it is because, in our experiment, something is wanting which was the cause of the former success; and if only one thing is wanting to us, that one thing is the true cause. Now we have eggs, and slings, and strong men to whirl them, and yet they will not become cooked; nay, if they were hot at first, they more quickly become cold: and since nothing is wanting to us but to be Babylonians, it follows that being Babylonians is the true cause why the eggs became hard, and not the friction of the air, which is what I wished to prove.—Is it possible that in travelling post, Sarsi has never noticed what freshness is occasioned on the face by the continual change of air? and if he has felt it, will he rather trust the relation by others, of what was done two thousand years ago at Babylon, than what he can at this moment verify in his own person? I at least will not be so wilfully wrong, and so ungrateful to nature and to God, that having been gifted with sense and language, I should voluntarily set less value on such great endowments than on the fallacies of a fellow man, and blindly and blunderingly believe whatever I hear, and barter the freedom of my intellect for slavery to one as liable to error as myself."

Our final extract shall exhibit a sample of Galileo's metaphysics, in which may be observed the germ of a theory very closely allied to that which was afterwards developed by Locke and Berkeley.—"I have now only to fulfil my promise of declaring my opinions on the proposition that motion is the cause of heat, and to explain in what manner it appears to me that it may be true. But I must first make some remarks on that which we call heat, since I strongly suspect that a notion of it prevails which is very remote from the truth; for it is believed that there is a true accident, affection, and quality, really inherent in the substance by which we feel ourselves heated. This much I have to say, that so soon as I conceive a material or corporeal substance, I simultaneously feel the necessity of conceiving that it

has its boundaries, and is of some shape or other; that, relatively to others, it is great or small; that it is in this or that place, in this or that time; that it is in motion, or at rest; that it touches, or does not touch another body; that it is unique, rare, or common; nor can I, by any act of the imagination, disjoin it from these qualities: but I do not find myself absolutely compelled to apprehend it as necessarily accompanied by such conditions, as that it must be white or red, bitter or sweet, sonorous or silent, smelling sweetly or disagreeably; and if the senses had not pointed out these qualities, it is probable that language and imagination alone could never have arrived at them. Because, I am inclined to think that these tastes, smells, colours, &c., with regard to the subject in which they appear to reside, are nothing more than mere names, and exist only in the sensitive body; inasmuch that, when the living creature is removed, all these qualities are carried off and annihilated; although we have imposed particular names upon them, and different from those of the other first and real accidents, and would fain persuade ourselves that they are truly and in fact distinct. But I do not believe that there exists any thing in external bodies for exciting tastes, smells, and sounds, but size, shape, quantity, and motion, swift or slow; and if ears, tongues, and noses were removed, I am of opinion that shape, number, and motion would remain, but there would be an end of smells, tastes, and sounds, which, abstractedly from the living creature, I take to be mere words."

In the spring following the publication of the "*Saggiatore*," that is to say, about the time of Easter, in 1624, Galileo went a third time to Rome to compliment Urban on his elevation to the pontifical chair. He was obliged to make this journey in a litter; and it appears from his letters that for some years he had been seldom able to bear any other mode of conveyance. In such a state of health it seems unlikely that he would have quitted home on a mere visit of ceremony, which suspicion is strengthened by the beginning of a letter from him to Prince Cesi, dated in October, 1623, in which he says: "I have received the very courteous and prudent advice of your excellency about the time and manner of my going to Rome, and shall act upon it; and I will visit you at Acqua Sparta, that I may be

completely informed of the actual state of things at Rome." However this may be, nothing could be more gratifying than his public reception there. His stay in Rome did not exceed two months, (from the beginning of April till June,) and during that time he was admitted to six long and satisfactory interviews with the Pope, and on his departure received the promise of a pension for his son Vincenzo, and was himself presented with "a fine painting, two medals, one of gold and the other of silver, and a good quantity of agnus dei." He had also much communication with several of the cardinals, one of whom, Cardinal Hohenzoller, told him that he had represented to the pope on the subject of Copernicus, that "all the heretics were of that opinion, and considered it as undoubted; and that it would be necessary to be very circumspect in coming to any resolution: to which his holiness replied, that the church had not condemned it, nor was it to be condemned as heretical, but only as rash; adding, that there was no fear of any one undertaking to prove that it must necessarily be true." Urban also addressed a letter to Ferdinand, who had succeeded his father Cosmo as Grand Duke of Tuscany, expressly for the purpose of recommending Galileo to him. "For We find in him not only literary distinction, but also the love of piety, and he is strong in those qualities by which pontifical good-will is easily obtained. And now, when he has been brought to this city to congratulate Us on Our elevation, We have very lovingly embraced him;—nor can We suffer him to return to the country whither your liberality recalls him without an ample provision of pontifical love. And that you may know how dear he is to Us, We have willed to give him this honourable testimonial of virtue and piety. And We further signify that every benefit which you shall confer upon him, imitating, or even surpassing your father's liberality, will conduce to Our gratification." Honoured with these unequivocal marks of approbation, Galileo returned to Florence.

His son Vincenzo is soon afterwards spoken of as being at Rome; and it is not improbable that Galileo sent him thither on the appointment of his friend and pupil, the Abbé Castelli, to be mathematician to the pope. Vincenzo had been legitimated by an edict of Cosmo in 1619, and, according to Nelli,

married, in 1624, Sestilia, the daughter of Carlo Bocchineri. There are no traces to be found of Vincenzo's mother after 1610, and perhaps she died about that time. Galileo's family by her consisted of Vincenzo and two daughters, Julia and Polissena, who both took the veil in the convent of Saint Matthew at Arcetri, under the names of Sister Arcangiola and Sister Maria Celeste. The latter is said to have possessed extraordinary talents. The date of Vincenzo's marriage, as given by Nelli, appears somewhat inconsistent with the correspondence between Galileo and Castelli, in which, so late as 1629, Galileo is apparently writing of his son as a student under Castelli's superintendence, and intimates the amount of pocket-money he can afford to allow him, which he fixes at three crowns a month; adding, that "he ought to be contented with as many crowns, as, at his age, I possessed groats." Castelli had given but an unfavourable account of Vincenzo's conduct, characterizing him as "dissolute, obstinate, and impudent;" in consequence of which behaviour, Galileo seems to have thought that the pension of sixty crowns, which had been granted by the pope, might be turned to better account than by employing it on his son's education; and accordingly in his reply he requested Castelli to dispose of it, observing that the proceeds would be useful in assisting him to discharge a great load of debt with which he found himself saddled on account of his brother's family. Besides this pension, another of one hundred crowns was in a few years granted by Urban to Galileo himself, but it appears to have been very irregularly paid, if at all.

About the same time Galileo found himself menaced either with the deprivation of his stipend as extraordinary professor at Pisa, or with the loss of that leisure which, on his removal to Florence, he had been so anxious to secure. In 1629, the question was agitated by the party opposed to him, whether it were in the power of the grand duke to assign a pension out of the funds of the University, arising out of ecclesiastical dues, to one who neither lectured nor resided there. This scruple had slept during nineteen years which had elapsed since Galileo's establishment in Florence, but probably those who now raised it reckoned upon finding in Ferdinand II., then scarcely

of age, a less firm supporter of Galileo than his father Cosmo had been. But the matter did not proceed so far; for, after full deliberation, the prevalent opinion of the theologians and jurists who were consulted appeared to be in favour of this exercise of prerogative, and accordingly Galileo retained his stipend and privileges.

CHAPTER XIII.

Publication of Galileo's 'System of the World'—His Condemnation and Abjuration.

IN the year 1630, Galileo brought to its conclusion his great work, "The Dialogue on the Ptolemaic and Copernican Systems," and began to take the necessary steps for procuring permission to print it. This was to be obtained in the first instance from an officer at Rome, entitled the master of the sacred palace; and after a little negotiation Galileo found it would be necessary for him again to return thither, as his enemies were still busy in thwarting his views and wishes. Niccolo Riccardi, who at that time filled the office of master of the palace, had been a pupil of Galileo, and was well disposed to facilitate his plans; he pointed out, however, some expressions in the work which he thought it necessary to erase, and, with the understanding that this should be done, he returned the manuscript to Galileo with his subscribed approbation. The unhealthy season was drawing near, and Galileo, unwilling to face it, returned home, where he intended to complete the index and dedication, and then to send it back to Rome to be printed in that city, under the superintendence of Federigo Cesi. This plan was disconcerted by the premature death of that accomplished nobleman, in August 1630, in whom Galileo lost one of his steadiest and most effective friends and protectors. This unfortunate event determined Galileo to attempt to procure permission to print his book at Florence. A contagious disorder had broken out in Tuscany with such severity as almost to interrupt all communication between Florence and Rome, and this was urged by Galileo as an additional reason for granting his request. Riccardi at first seemed inclined to insist that the book should be sent to him a second time, but at last contented himself with inspecting the commencement and conclusion, and consented that (on its receiving also a license from the inquisitor-

general at Florence, and from one or two others whose names appear on the title-page) it might be printed where Galileo wished.

These protracted negotiations prevented the publication of the work till late in 1632; it then appeared, with a dedication to Ferdinand, under the following title:—"A Dialogue, by Galileo Galilei, Extraordinary Mathematician of the University of Pisa, and Principal Philosopher and Mathematician of the Most Serene Grand Duke of Tuscany; in which, in a conversation of four days, are discussed the two principal Systems of the World, the Ptolemaic and Copernican, indeterminately proposing the Philosophical Arguments as well on one side as on the other." The beginning of the introduction, which is addressed "To the discreet Reader," is much too characteristic to be passed by without notice.—"Some years ago, a salutary edict was promulgated at Rome, which, in order to obviate the perilous scandals of the present age, enjoined an opportune silence on the Pythagorean opinion of the earth's motion. Some were not wanting, who rashly asserted that this decree originated, not in a judicious examination, but in ill informed passion; and complaints were heard that counsellors totally inexperienced in astronomical observations ought not by hasty prohibitions to clip the wings of speculative minds. My zeal could not keep silence when I heard these rash lamentations, and I thought it proper, as being fully informed with regard to that most prudent determination, to appear publicly on the theatre of the world as a witness of the actual truth. I happened at that time to be in Rome: I was admitted to the audiences, and enjoyed the approbation of the most eminent prelates of that court, nor did the publication of that decree occur without my receiving some prior intimation of it.* Wherefore it is my intention in this present work, to show to foreign nations that as much is known of this matter in Italy, and particularly in Rome, as ultramontane diligence can ever have formed any notion of, and collecting together all my own speculations on the Copernican system, to give them to understand that the knowledge of all these preceded the Roman censures, and that from this

* Delambre quotes this sentence from a passage which is so obviously ironical throughout, as an instance of Galileo's mis-statement of facts!—*Hist. de l'Astr. Mod.*, vol. i. p. 666.

country proceed not only dogmas for the salvation of the soul, but also ingenious discoveries for the gratification of the understanding. With this object, I have taken up in the Dialogue the Copernican side of the question, treating it as a pure mathematical hypothesis; and endeavouring in every artificial manner to represent it as having the advantage, not over the opinion of the stability of the earth absolutely, but according to the manner in which that opinion is defended by some, who indeed profess to be Peripatetics, but retain only the name, and are contented without improvement to worship shadows, not philosophizing with their own reason, but only from the recollection of four principles imperfectly understood."—This very flimsy veil could scarcely blind any one as to Galileo's real views in composing this work, nor does it seem probable that he framed it with any expectation of appearing neutral in the discussion. It is more likely that he flattered himself that, under the new government at Rome, he was not likely to be molested on account of the personal prohibition which he had received in 1616, "not to believe or teach the motion of the earth in any manner," provided he kept himself within the letter of the limits of the more public and general order, that the Copernican system was not to be brought forward otherwise than as a mere mathematically convenient, but in fact unreal supposition. So long as this decree remained in force, a due regard to consistency would compel the Roman Inquisitors to notice an unequivocal violation of it; and this is probably what Urban had implied in the remark quoted by Hohenzoller to Galileo.* There were not wanting circumstances which might compensate for the loss of Cosmo and of Federigo Cesi; Cosmo had been succeeded by his son, who, though he had not yet attained his father's energy, showed himself as friendly as possible to Galileo. Cardinal Bellarmine, who had been mainly instrumental in procuring the decree of 1616, was dead; Urban on the contrary, who had been among the few Cardinals who then opposed it as uncalled for and ill-advised, was now possessed of supreme power, and his recent affability seemed to prove that the increased difference in their stations had not caused him to forget their early and long-continued intimacy. It is probable that Galileo would not have found him-

self mistaken in this estimate of his position, but for an unlucky circumstance, of which his enemies immediately saw the importance, and which they were not slow in making available against him. The dialogue of Galileo's work is conducted between three personages;—Salviati and Sagredo, who were two noblemen, friends of Galileo, and Simplicio, a name borrowed from a noted commentator upon Aristotle, who wrote in the sixth century. Salviati is the principal philosopher of the work; it is to him that the others apply for solutions of their doubts and difficulties, and on him the principal task falls of explaining the tenets of the Copernican theory. Sagredo is only a half convert, but an acute and ingenious one; to him are allotted the objections which seem to have some real difficulty in them, as well as lively illustrations and digressions, which might have been thought inconsistent with the gravity of Salviati's character. Simplicio, though candid and modest, is of course a confirmed Ptolemaist and Aristotelian, and is made to produce successively all the popular arguments of that school in support of his master's system. Placed between the wit and the philosopher, it may be guessed that his success is very indifferent, and in fact he is alternately ridiculed and confuted at every turn. As Galileo racked his memory and invention to leave unanswered no argument which was or could be advanced against Copernicus, it unfortunately happened, that he introduced some which Urban himself had urged upon him in their former controversies on this subject; and Galileo's opponents found means to make His Holiness believe that the character of Simplicio had been sketched in personal derision of him. We do not think it necessary to exonerate Galileo from this charge; the obvious folly of such an useless piece of ingratitude speaks sufficiently for itself. But self-love is easily irritated; and Urban, who aspired to a reputation for literature and science, was peculiarly sensitive on this point. His own expressions almost prove his belief that such had been Galileo's design, and it seems to explain the otherwise inexplicable change which took place in his conduct towards his old friend, on account of a book which he had himself undertaken to examine, and of which he had authorised the publication.

One of the earliest notices of what was approaching, is found in the dispatches,

dated August 24, 1632, from Ferdinand's minister, Andrea Cioli, to Francesco Nicolini, the Tuscan ambassador at the court of Rome.

"I have orders to signify to Your Excellency that His Highness remains greatly astonished that a book, placed by the author himself in the hands of the supreme authority in Rome, read and read again there most attentively, and in which every thing, not only with the consent, but at the request of the author, was amended, altered, added, or removed at the will of his superiors, which was again subjected here to the same examination, agreeably to orders from Rome, and which finally was licensed both there and here, and here printed and published, should now become an object of suspicion at the end of two years, and the author and printer be prohibited from publishing any more."—In the sequel is intimated Ferdinand's desire that the charges, of whatever nature they might be, either against Galileo or his book, might be reduced to writing and forwarded to Florence, that he might prepare for his justification; but this reasonable demand was utterly disregarded. It appears to have been owing to the mean subserviency of Cioli to the court of Rome, that Ferdinand refrained from interfering more strenuously to protect Galileo. Cioli's words are: "The Grand Duke is so enraged with this business of Galileo, that I do not know what will be done. I know, at least, that His Holiness shall have no reason to complain of his ministers, or of their bad advice."*

A letter from Galileo's Venetian friend Micanzio, dated about a month later, is in rather a bolder and less formal style:—"The efforts of your enemies to get your book prohibited will occasion no loss either to your reputation, or to the intelligent part of the world. As to posterity, this is just one of the surest ways to hand the book down to them. But what a wretched set this must be to whom every good thing, and all that is founded in nature, necessarily appears hostile and odious! The world is not restricted to a single corner; you will see the book printed in more places and languages than one; and just for this reason, I wish they would prohibit all good books. My disgust arises from seeing myself deprived of what I most desire of this sort, I mean your other dialogues; and if, from this cause, I fail in having the

pleasure of seeing them, I shall devote to a hundred thousand devils these unnatural and godless hypocrites."

At the same time, Thomas Campanella, a monk, who had already distinguished himself by an apology for Galileo (published in 1622), wrote to him from Rome:—"I learn with the greatest disgust, that a congregation of angry theologians is forming to condemn your Dialogues, and that no single member of it has any knowledge of mathematics, or familiarity with abstruse speculations. I should advise you to procure a request from the Grand Duke that, among the Dominicans and Jesuits and Theatins, and secular priests whom they are putting on this congregation against your book, they should admit also Castelli and myself." It appears, from subsequent letters both from Campanella and Castelli, that the required letter was procured and sent to Rome, but it was not thought prudent to irritate the opposite party by a request which it was then clearly seen would have been made in vain. Not only were these friends of Galileo not admitted to the congregation, but, upon some pretext, Castelli was even sent away from Rome, as if Galileo's enemies desired to have as few enlightened witnesses as possible of their proceedings; and on the contrary, Scipio Chiaramonte, who had been long known for one of the staunchest and most bigoted defenders of the old system, and who, as Montucla says, seems to have spent a long life in nothing but retarding, as far as he was able, the progress of discovery, was summoned from Pisa to complete their number. From this period we have a tolerably continuous account of the proceedings against Galileo in the dispatches which Nicolini sent regularly to his court. It appears from them that Nicolini had several interviews with the Pope, whom he found highly incensed against Galileo, and in one of the earliest he received an intimation to advise the Duke "not to engage himself in this matter as he had done in the other business of Alidosi,* because he would not get through it with honour." Finding Urban in this humour, Nicolini thought it best to temporize, and to avoid the appearance of any thing like direct opposition. On the 15th of September, probably as soon as the first report on

* Galuzzi, *Storia di Toscana*. Firenze, 1822.

* Alidosi was a Florentine nobleman, whose estate Urban wished to confiscate on a charge of heresy.—*Galuzzi*.

Galileo's book had been made, Nicolini received a private notice from the Pope, "in especial token of the esteem in which he held the Grand Duke," that he was unable to do less than consign the work to the consideration of the Inquisition. Nicolini was permitted to communicate this to the Grand Duke only, and both were declared liable to "the usual censures" of the Inquisition in case of divulging the secret.

The next step was to summon Galileo to Rome, and the only answer returned to all Nicolini's representations of his advanced age of seventy years, the very infirm state of his health, and the discomforts which he must necessarily suffer in such a journey, and in keeping quarantine, was that he might come at leisure, and that the quarantine should be relaxed as much as possible in his favour, but that it was indispensably necessary that he should be personally examined before the Inquisition at Rome. Accordingly, on the 14th of February, 1633, Nicolini announces Galileo's arrival, and that he had officially notified his presence to the Assessor and Commissary of the Holy Office. Cardinal Barberino, Urban's nephew, who seems on the whole to have acted a friendly part towards Galileo, intimated to him that his most prudent course would be to keep himself as much at home and as quiet as possible, and to refuse to see any but his most intimate friends. With this advice, which was repeated to him from several quarters, Galileo thought it best to comply, and kept himself entirely secluded in Nicolini's palace, where he was as usual maintained at the expense of the Grand Duke. Nelli quotes two letters, which passed between Ferdinand's minister Cioli and Nicolini, in which the former intimated that Galileo's expenses were to be defrayed only during the first month of his residence at Rome. Nicolini returned a spirited answer, that in that case, after the time specified, he should continue to treat him as before at his own private cost.

The permission to reside at the ambassador's palace whilst his cause was pending, was granted and received as an extraordinary indulgence on the part of the Inquisition, and indeed if we estimate the proceedings throughout against Galileo by the usual practice of that detestable tribunal, it will appear that he was treated with unusual consideration. Even when it became necessary in the course of the inquiry to examine him in person, which was in the beginning of April, although his re-

moval to the Holy Office was then insisted upon, yet he was not committed to close or strictly solitary confinement. On the contrary, he was honourably lodged in the apartments of the Fiscal of the Inquisition, where he was allowed the attendance of his own servant, who was also permitted to sleep in an adjoining room, and to come and go at pleasure. His table was still furnished by Nicolini. But, notwithstanding the distinction with which he was thus treated, Galileo was annoyed and uneasy at being (though little more than nominally) within the walls of the Inquisition. He became exceedingly anxious that the matter should be brought to a conclusion, and a severe attack of his constitutional complaints rendered him still more fretful and impatient. On the last day of April, about ten days after his first examination, he was unexpectedly permitted to return to Nicolini's house, although the proceedings were yet far from being brought to a conclusion. Nicolini attributes this favour to Cardinal Barberino, who, he says, liberated Galileo on his own responsibility, in consideration of the enfeebled state of his health.

In the society of Nicolini and his family, Galileo recovered something of his courage and ordinary cheerfulness, although his return appears to have been permitted on express condition of a strict seclusion; for at the latter end of May, Nicolini was obliged to apply for permission that Galileo should take that exercise in the open air which was necessary for his health; on which occasion he was permitted to go into the public gardens in a half-closed carriage.

On the evening of the 20th of June, rather more than four months after Galileo's arrival in Rome, he was again summoned to the Holy Office, whither he went the following morning; he was detained there during the whole of that day, and on the next day was conducted in a penitential dress* to the Convent of Minerva, where the Cardinals and Prelates, his judges, were assembled for the purpose of passing judgment upon him, by which this venerable old man was solemnly called upon to renounce and abjure, as impious and heretical, the opinions which his whole existence had been consecrated to form and strengthen.

* S' irritò il Papa, e lo fece abjurare, comprendendo il pover uomo con uno straccio di camicia indosso, che faceva compassione. MS. nella Bibl. Magliab. Venezia.

As we are not aware that this remarkable record of intolerance and bigoted folly has ever been printed entire in English, we subjoin a literal translation of the whole sentence and abjuration.

The Sentence of the Inquisition on Galileo.

"We, the undersigned, by the Grace of God, Cardinals of the Holy Roman Church, Inquisitors General throughout the whole Christian Republic, Special Deputies of the Holy Apostolical Chair against heretical depravity,

"Whereas you, Galileo, son of the late Vincenzo Galilei of Florence, aged seventy years, were denounced in 1615 to this Holy Office, for holding as true a false doctrine taught by many, namely, that the sun is immoveable in the centre of the world, and that the earth moves, and also with a diurnal motion; also, for having pupils whom you instructed in the same opinions; also, for maintaining a correspondence on the same with some German mathematicians; also for publishing certain letters on the solar spots, in which you developed the same doctrine as true; also, for answering the objections which were continually produced from the Holy Scriptures, by glozing the said Scriptures according to your own meaning; and whereas thereupon was produced the copy of a writing, in form of a letter, professedly written by you to a person formerly your pupil, in which, following the hypotheses of Copernicus, you include several propositions contrary to the true sense and authority of the Holy Scripture: therefore this holy tribunal being desirous of providing against the disorder and mischief which was thence proceeding and increasing to the detriment of the holy faith, by the desire of His Holiness, and of the Most Eminent Lords Cardinals of this supreme and universal Inquisition, the two propositions of the stability of the sun, and motion of the earth, were *qualified* by the *Theological Qualifiers* as follows:

"1st. *The proposition that the Sun is in the centre of the world and immoveable from its place, is absurd, philosophically false, and formally heretical; because it is expressly contrary to the Holy Scripture.*

"2dly. *The proposition that the Earth is not the centre of the world, nor immoveable, but that it moves, and also with a diurnal motion, is also absurd, philosophically false, and, theologically considered, at least erroneous in faith.*

"But whereas being pleased at that time to deal mildly with you, it was decreed in the Holy Congregation, held before His Holiness on the 25th day of February, 1616, that His Eminence the Lord Cardinal Bellarmine should enjoin you to give up altogether the said false doctrine; if you should refuse, that you should be ordered by the Commissary of the Holy Office to relinquish it, not to teach it to others, nor to defend it, nor ever mention it, and in default of acquiescence that you should be imprisoned; and in execution of this decree, on the following day at the palace, in presence of His Eminence the said Lord Cardinal Bellarmine, after you had been mildly admonished by the said Lord Cardinal, you were commanded by the acting Commissary of the Holy Office, before a notary and witnesses, to relinquish altogether the said false opinion, and in future neither to defend nor teach it in any manner, neither verbally nor in writing, and upon your promising obedience you were dismissed.

"And in order that so pernicious a doctrine might be altogether rooted out, nor insinuate itself farther to the heavy detriment of the Catholic truth, a decree emanated from the Holy Congregation of the Index* prohibiting the books which treat of this doctrine; and it was declared false, and altogether contrary to the Holy and Divine Scripture.

"And whereas a book has since appeared, published at Florence last year, the title of which shewed that you were the author, which title is: *The Dialogue of Galileo Galilei, on the two principal systems of the world, the Ptolemaic and Copernican*; and whereas the Holy Congregation has heard that, in consequence of the printing of the said book, the false opinion of the earth's motion and stability of the sun is daily gaining ground; the said book has been taken into careful consideration, and in it has been detected a glaring violation of the said order, which had been intimated to you; inasmuch as in this book you have

* The Index is a list of books, the reading of which is prohibited to Roman Catholics. This list, in the early periods of the Reformation, was often consulted by the curious, who were enlarging their libraries; and a story is current in England, that, to prevent this mischief, the Index itself was inserted in its own forbidden catalogue. The origin of this story is, that an Index was published in Spain, particularizing the objectionable passages in such books as were only partially condemned; and although compiled with the best intentions, this was found to be so racy, that it became necessary to forbid the circulation of this edition in subsequent lists.

defended the said opinion, already and in your presence condemned; although in the said book you labour with many circumlocutions to induce the belief that it is left by you undecided, and in express terms probable: which is equally a very grave error, since an opinion can in no way be probable which has been already declared and finally determined contrary to the divine Scripture. Therefore by Our order you have been cited to this Holy Office, where, on your examination upon oath, you have acknowledged the said book as written and printed by you. You also confessed that you began to write the said book ten or twelve years ago, after the order aforesaid had been given. Also, that you demanded license to publish it, but without signifying to those who granted you this permission that you had been commanded not to hold, defend, or teach the said doctrine in any manner. You also confessed that the style of the said book was, in many places, so composed that the reader might think the arguments adduced on the false side to be so worded as more effectually to entangle the understanding than to be easily solved, alleging in excuse, that you have thus run into an error, foreign (as you say) to your intention, from writing in the form of a dialogue, and in consequence of the natural complacency which every one feels with regard to his own subtilities, and in showing himself more skilful than the generality of mankind in contriving, even in favour of false propositions, ingenious and apparently probable arguments.

"And, upon a convenient time being given to you for making your defence, you produced a certificate in the handwriting of His Eminence the Lord Cardinal Bellarmine, procured, as you said, by yourself, that you might defend yourself against the calumnies of your enemies, who reported that you had abjured your opinions, and had been punished by the Holy Office; in which certificate it is declared, that you had not abjured, nor had been punished, but merely that the declaration made by His Holiness, and promulgated by the Holy Congregation of the Index, had been announced to you, which declares that the opinion of the motion of the earth, and stability of the sun, is contrary to the Holy Scriptures, and, therefore, cannot be held or defended. Wherefore, since no mention is there made of two articles of the order, to wit,

the order 'not to teach,' and 'in any manner,' you argued that we ought to believe that, in the lapse of fourteen or sixteen years, they had escaped your memory, and that this was also the reason why you were silent as to the order, when you sought permission to publish your book, and that this is said by you not to excuse your error, but that it may be attributed to vain-glorious ambition, rather than to malice. But this very certificate, produced on your behalf, has greatly aggravated your offence, since it is therein declared that the said opinion is contrary to the Holy Scripture, and yet you have dared to treat of it, to defend it, and to argue that it is probable; nor is there any extenuation in the licence artfully and cunningly extorted by you, since you did not intimate the command imposed upon you. But whereas it appeared to Us that you had not disclosed the whole truth with regard to your intentions, We thought it necessary to proceed to the rigorous examination of you, in which (without any prejudice to what you had confessed, and which is above detailed against you, with regard to your said intention) you answered like a good Catholic.

"Therefore, having seen and maturely considered the merits of your cause, with your said confessions and excuses, and every thing else which ought to be seen and considered, We have come to the underwritten final sentence against you.

"Invoking, therefore, the most holy name of Our Lord Jesus Christ, and of His Most Glorious Virgin Mother Mary, by this Our final sentence, which, sitting in council and judgment for the tribunal of the Reverend Masters of Sacred Theology, and Doctors of both Laws, Our Assessors, We put forth in this writing touching the matters and controversies before Us, between The Magnificent Charles Sincerus, Doctor of both Laws, Fiscal Proctor of this Holy Office of the one part, and you, Galileo Galilei, an examined and confessed criminal from this present writing now in progress as above of the other part, We pronounce, judge, and declare, that you, the said Galileo, by reason of these things which have been detailed in the course of this writing, and which, as above, you have confessed, have rendered yourself vehemently suspected by this Holy Office of heresy: that is to say, that you believe and hold the false doctrine, and contrary to the Holy

and Divine Scriptures, namely, that the sun is the centre of the world, and that it does not move from east to west, and that the earth does move, and is not the centre of the world; also that an opinion can be held and supported as probable after it has been declared and finally decreed contrary to the Holy Scripture, and consequently that you have incurred all the censures and penalties enjoined and promulgated in the sacred canons, and other general and particular constitutions against delinquents of this description. From which it is Our pleasure that you be absolved, provided that, first, with a sincere heart and unfeigned faith, in Our presence, you abjure, curse, and detest the said errors and heresies, and every other error and heresy contrary to the Catholic and Apostolic Church of Rome, in the form now shown to you.

"But, that your grievous and pernicious error and transgression may not go altogether unpunished. and that you may be made more cautious in future, and may be a warning to others to abstain from delinquencies of this sort, We decree that the book of the dialogues of Galileo Galilei be prohibited by a public edict, and We condemn you to the formal prison of this Holy Office for a period determinable at Our pleasure; and, by way of salutary penance, We order you, during the next three years, to recite once a week the seven penitential psalms, reserving to Ourselves the power of moderating, commuting, or taking off the whole or part of the said punishment and penance.

"And so We say, pronounce, and by Our sentence declare, decree, and reserve, in this and in every other better form and manner, which lawfully We may and can use.

"So We, the subscribing Cardinals, pronounce.

Felix, Cardinal di Ascoli,
- Guido, Cardinal Bentivoglio,
Desiderio, Cardinal di Cremona,
Antonio, Cardinal S. Onofrio,
Berlingero, Cardinal Gessi,
Fabricio, Cardinal Verospi,
Martino, Cardinal Ginetti."

We cannot suppose that Galileo, even broken down as he was with age and infirmities, and overawed by the merciless tribunal to whose power he was subjected, could without extreme reluctance thus formally give the lie to his whole life, and call upon God to witness his renunciation of the opinions which

even his bigoted judges must have felt that he still clung to in his heart.

We know indeed that his friends were unanimous in recommending an unqualified acquiescence in whatever might be required, but some persons have not been able to find an adequate explanation of his submission, either in their exhortations, or in the mere dread of the alternative which might await him in case of non-compliance. It has in short been supposed, although the suspicion scarcely rests upon grounds sufficiently strong to warrant the assertion, that Galileo did not submit to this abjuration until forced to it, not merely by the apprehension, but by the actual experience of personal violence. The arguments on which this horrible idea appears to be mainly founded are the two following: First, the Inquisitors declare in their sentence that, not satisfied with Galileo's first confession, they judged it necessary to proceed "to the rigorous examination of him, in which he answered like a good Catholic.*" It is pretended by those who are more familiar with inquisitorial language than we can profess to be, that the words *il rigoroso esame*, form the official phrase for the application of the torture, and accordingly they interpret this passage to mean, that the desired answers and submission had thus been extorted from Galileo, which his judges had otherwise failed to get from him. And, secondly, the partisans of this opinion bring forward in corroboration of it, that Galileo immediately on his departure from Rome, in addition to his old complaints, was found to be afflicted with hernia, and this was a common consequence of the torture of the cord, which they suppose to have been inflicted. It is right to mention that no other trace can be found of this supposed torturing in all the documents relative to the proceedings against Galileo, at least Venturi was so assured by one who had inspected the originals at Paris.†

* Giudicassimo esser necessario venir contro di te al rigoroso esame nel quale rispondesti cattolicamente.

† The fate of these documents is curious; after being long preserved at Rome, they were carried away in 1809, by order of Buonaparte, to Paris, where they remained till his first abdication. Just before the hundred days, the late king of France, wishing to inspect them, ordered that they should be brought to his own apartments for that purpose. In the hasty flight which soon afterwards followed, the manuscripts were forgotten, and it is not known what became of them. A French translation, begun by Napoleon's desire, was completed only down to the 30th of April, 1633, the date of Galileo's first return to Nicolini's palace.

Although the arguments we have mentioned appear to us slight, yet neither can we attach much importance to the contrast which the favourers of the opposite opinion profess to consider so incredible between the honourable manner in which Galileo was treated throughout the rest of the inquiry, and the suspected harsh proceeding against him. Whether Galileo should be lodged in a prison or a palace, was a matter of far other importance to the Inquisitors and to their hold upon public opinion, than the question whether or not he should be suffered to exhibit a persevering resistance to the censures which they were prepared to cast upon him. Nor need we shrink from the idea, as we might from suspecting of some gross crime, on trivial grounds, one of hitherto unblemished innocence and character. The question may be disencumbered of all such scruples, since one atrocity more or less can do little towards affecting our judgment of the unholy Office of the Inquisition.

Delambre, who could find so much to reprehend in Galileo's former unpromising boldness, is deeply penetrated with the insincerity of his behaviour on the present occasion. He seems to have forgotten that a tribunal which finds it convenient to carry on its inquiries in secret, is always liable to the suspicion of putting words into the mouth of its victims; and if it were worth while, there is sufficient internal evidence that the language which Galileo is made to hold in his defence and confession, is rather to be read as the composition of his judges than his own. For instance, in one of the letters which we have extracted*, it may be seen that this obnoxious work was already in forward preparation as early as 1610, and yet he is made to confess, and the circumstance appears to be brought forward in aggravation of his guilt, that he began to write it after the prohibition which he had received in 1616.

The abjuration was drawn up in the following terms:—

The Abjuration of Galileo.

“ I Galileo Galilei, son of the late Vincenzo Galilei, of Florence, aged 70 years, being brought personally to judgment, and kneeling before you, Most Eminent and Most Reverend Lords Cardinals, General Inquisitors of the universal Christian re-

public against heretical depravity, having before my eyes the Holy Gospels, which I touch with my own hands, swear, that I have always believed, and now believe, and with the help of God will in future believe, every article which the Holy Catholic and Apostolic Church of Rome holds, teaches, and preaches. But because I had been enjoined by this Holy Office altogether to abandon the false opinion which maintains that the sun is the centre and immoveable, and forbidden to hold, defend, or teach, the said false doctrine in any manner, and after it had been signified to me that the said doctrine is repugnant with the Holy Scripture, I have written and printed a book, in which I treat of the same doctrine now condemned, and adduce reasons with great force in support of the same, without giving any solution, and therefore have been judged grievously suspected of heresy; that is to say, that I held and believed that the sun is the centre of the world and immoveable, and that the earth is not the centre and moveable, Willing, therefore, to remove from the minds of Your Eminences, and of every Catholic Christian, this vehement suspicion rightfully entertained towards me, with a sincere heart and unfeigned faith, I abjure, curse, and detest, the said errors and heresies, and generally every other error and sect contrary to the said Holy Church; and I swear, that I will never more in future say or assert anything verbally, or in writing, which may give rise to a similar suspicion of me: but if I shall know any heretic, or any one suspected of heresy, that I will denounce him to this Holy Office, or to the Inquisitor and Ordinary of the place in which I may be. I swear, moreover, and promise, that I will fulfil, and observe fully, all the penances which have been, or shall be laid on me by this Holy Office. But if it shall happen that I violate any of my said promises, oaths, and protestations, (which God avert!) I subject myself to all the pains and punishments, which have been decreed and promulgated by the sacred canons, and other general and particular constitutions, against delinquents of this description. So may God help me, and his Holy Gospels, which I touch with my own hands. I, the above-named Galileo Galilei, have abjured, sworn, promised, and bound myself, as above, and in witness thereof with my own hand have subscribed this present writing of my abjuration, which

I have recited word for word. At Rome in the Convent of Minerva, 22d June, 1633. I, Galileo Galilei, have abjured as above with my own hand."

It is said that Galileo, as he rose from his knees, stamped on the ground, and whispered to one of his friends, *E pur si muove*—(It does move though).

Copies of Galileo's sentence and abjuration were immediately promulgated in every direction, and the professors at several universities received directions to read them publicly. At Florence this ceremony took place in the church of Sta. Croce, whither Guiducci, Aggiunti, and all others who were known in that city as firm adherents to Galileo's opinions, were specially summoned. The triumph of the "Paper Philosophers" was so far complete, and the alarm occasioned by this proof of their dying power extended even beyond Italy. "I have been told," writes Descartes from Holland to Mersenne at Paris, "that Galileo's system was printed in Italy last year, but that every copy has been burnt at Rome, and himself condemned to some sort of penance, which has astonished me so much that I have almost determined to burn all my papers, or at least never to let them be seen by any one. I cannot collect that he, who is an Italian and even a friend of the Pope, as I understand, has been criminated on any other account than for having attempted to establish the motion of the earth. I know that this opinion was formerly censured by some Cardinals, but I thought I had since heard, that no objection was now made to its being publicly taught, even at Rome."

The sentiments of all who felt themselves secured against the apprehension of personal danger could take but one direction, for, as Pascal well expressed it in one of his celebrated letters to the Jesuits—"It is in vain that you have procured against Galileo a decree from Rome condemning his opinion of the earth's motion. Assuredly, that will never prove it to be at rest; and if we have unerring observations proving that it turns round, not all mankind together can keep it from turning, nor themselves from turning with it."

The assembly of doctors of the Sorbonne at Paris narrowly escaped from passing a similar sentence upon the system of Copernicus. The question was laid before them by Richelieu, and it appears that their opinion was for a moment in favour of confirming the Roman decree. It is to be wished that the name

had been preserved of one of its members, who, by his strong and philosophical representations, saved that celebrated body from this disgrace.

Those who saw nothing in the punishment of Galileo but passion and blinded superstition, took occasion to revert to the history of a similar blunder of the Court of Rome in the middle of the eighth century. A Bavarian bishop, named Virgil, eminent both as a man of letters and politician, had asserted the existence of Antipodes, which excited in the ignorant bigots of his time no less alarm than did the motion of the earth in the seventeenth century. Pope Zachary, who was scandalized at the idea of another earth, inhabited by another race of men, and enlightened by another sun and moon (for this was the shape which Virgil's system assumed in his eyes), sent out positive orders to his legate in Bavaria. "With regard to Virgil, the philosopher, (I know not whether to call him priest,) if he own these perverse opinions, strip him of his priesthood, and drive him from the church and altars of God." But Virgil had himself occasionally acted as legate, and was moreover too necessary to his sovereign to be easily displaced. He utterly disregarded these denunciations, and during twenty-five years which elapsed before his death, retained his opinions, his bishopric of Salzburg, and his political power. He was afterwards canonized*.

Even the most zealous advocates of the authority of Rome were embarrassed in endeavouring to justify the treatment which Galileo experienced. Tiraboschi has attempted to draw a somewhat subtle distinction between the bulls of the Pope and the inquisitorial decrees which were sanctioned and approved by him; he dwells on the reflection that no one, even among the most zealous Catholics, has ever claimed infallibility as an attribute of the Inquisition, and looks upon it as a special mark of grace accorded to the Roman Catholic Church, that during the whole period in which most theologians rejected the opinions of Copernicus, as contrary to the Scriptures, the head of that Church was never permitted to compromise his infallible character by formally condemning it†.

Whatever may be the value of this

* Annalium Bolorum, libri vii. Ingolstadtii, 1554.

† La Chiesa non ha mai dichiarati eretici i sostenitori del Sistema Copernicano, e questa troppo rigorosa censura non uscì che dal tribunale della Romana Inquisizione a cui niuno tra Cattolici ancor più zelanti ha mai attribuito il diritto dell' infalli-

consolation, it can hardly be conceded, unless it be at the same time admitted that many scrupulous members of the Church of Rome have been suffered to remain in singular misapprehension of the nature and sanction of the authority to which Galileo had yielded. The words of the bull of Sixtus V., by which the Congregation of the Index was remodelled in 1588, are quoted by a professor of the University of Louvain, a zealous antagonist of Galileo, as follows: "They are to examine and expose the books which are repugnant to the Catholic doctrines and Christian discipline, and after reporting on them to us, they are to condemn them by our authority.*" Nor does it appear that the learned editors of what is commonly called the Jesuit's edition of Newton's "*Principia*" were of opinion, that in adopting the Copernican system they should transgress a mandate emanating from any thing short of infallible wisdom. The remarkable words which they were compelled to prefix to their book, show how sensitive the court of Rome remained, even so late as 1742, with regard to this rashly condemned theory. In their preface they say: "Newton in this third book supposes the motion of the earth. We could not explain the author's propositions otherwise than by making the same supposition. We are therefore forced to sustain a character which is not our own; but we profess to pay the obsequious reverence which is due to the decrees pronounced by the supreme Pontiffs against the motion of the earth."†

This coy reluctance to admit what nobody any longer doubts has survived to the present time; for Baili informs us,‡ that the utmost endeavours of Lalande, when at Rome, to obtain that Galileo's work should be erased from the Index, were entirely ineffectual, in consequence of the decree which had been fulminated against him; and in fact both it, and the book of Copernicus, "*Nisi Corrigatur*," are still to be seen on the forbidden list of 1828.

The condemnation of Galileo and his book was not thought sufficient. Ur-

ban's indignation also vented itself upon those who had been instrumental in obtaining the licence for him. The Inquisitor at Florence was reprimanded; Riccardi, the master of the sacred palace, and Ciampoli, Urban's secretary, were both dismissed from their situations. Their punishment appears rather anomalous and inconsistent with the proceedings against Galileo, in which it was assumed that his book was not properly licensed; yet the others suffered on account of granting that very licence, which he was accused of having surreptitiously obtained from them, by concealing circumstances with which they were not bound to be otherwise acquainted. Riccardi, in exculpation of his conduct, produced a letter in the hand-writing of Ciampoli, in which was contained that His Holiness, in whose presence the letter professed to be written, ordered the licence to be given. Urban only replied that this was a Ciampolism; that his secretary and Galileo had circumvented him; that he had already dismissed Ciampoli, and that Riccardi must prepare to follow him.

As soon as the ceremony of abjuration was concluded, Galileo was consigned, pursuant to his sentence, to the prison of the Inquisition. Probably it was never intended that he should long remain there, for at the end of four days, he was reconducted on a very slight representation of Nicolini to the ambassador's palace, there to await his further destination. Florence was still suffering under the before-mentioned contagion; and Sienna was at last fixed on as the place of his relegation. He would have been shut up in some convent in that city, if Nicolini had not recommended as a more suitable residence, the palace of the Archbishop Piccolomini, whom he knew to be among Galileo's warmest friends. Urban consented to the change, and Galileo finally left Rome for Sienna in the early part of July.

Piccolomini received him with the utmost kindness, controlled of course by the strict injunctions which were dispatched from Rome, not to suffer him on any account to quit the confines of the palace. Galileo continued at Sienna in this state of seclusion till December of the same year, when the contagion having ceased in Tuscany, he applied for permission to return to his villa at Arcetri. This was allowed, subject to the same restrictions under which he had been residing with the archbishop.

bilità. Anzi in ciò ancora è d'ammirarsi la provvidenza di Dio a favor della Chiesa, perciocchè in un tempo in cui la maggior parte dei teologi fermamente credevano che il Sistema Copernicano fosse all'autorità delle sacre Carte contrario, pur non permisero che dalla Chiesa si proferisse su ciò un solenne giudizio.—*Stor. della Lett. Ital.*

* Lib. Fromondi *Antiaristarchus*, Antwerp, 1631.

† Newtoni *Principia*, Coloniae, 1760.

‡ *Histoire de l'Astronomie Moderne*.

CHAPTER XIV.

Extracts from the Dialogues on the System.

AFTER narrating the treatment to which Galileo was subject on account of his admirable Dialogues, it will not be irrelevant to endeavour, by a few extracts, to convey some idea of the style in which they are written. It has been mentioned, that he is considered to surpass all other Italian writers (unless we except Machiavelli) in the purity and beauty of his language, and indeed his principal followers, who avowedly imitated his style, make a distinguished group among the classical authors of modern Italy. He professed to have formed himself from the study of Ariosto, whose poems he passionately admired, insomuch that he could repeat the greater part of them, as well as those of Berni and Petrarca, all which he was in the frequent habit of quoting in conversation. The fashion and almost universal practice of that day was to write on philosophical subjects in Latin; and although Galileo wrote very passably in that language, yet he generally preferred the use of Italian, for which he gave his reasons in the following characteristic manner:—

“I wrote in Italian because I wished every one to be able to read what I wrote; and for the same cause I have written my last treatise in the same language: the reason which has induced me is, that I see young men brought together indiscriminately to study to become physicians, philosophers, &c., and whilst many apply to such professions who are most unfit for them, others who would be competent remain occupied either with domestic business, or with other employments alien to literature; who, although furnished, as Ruzzante might say, with a *decent set of brains*, yet, not being able to understand things written in *gibberish*, take it into their heads, that in these crabbed folios there must be some grand *hocus pocus* of logic and philosophy much too high up for them to think of jumping at. I want them to know, that as Nature has given eyes to them just as well as to philosophers for the purpose of seeing her works, she has also given them brains for examining and understanding them.”

The general structure of the dialogues has been already described*; we shall

therefore premise no more than the judgment pronounced on them by a highly gifted writer, to supply the deficiencies of our necessarily imperfect analysis.

“One forms a very imperfect idea of Galileo, from considering the discoveries and inventions, numerous and splendid as they are, of which he was the undisputed author. It is by following his reasonings, and by pursuing the train of his thoughts, in his own elegant, though somewhat diffuse exposition of them, that we become acquainted with the fertility of his genius—with the sagacity, penetration, and comprehensiveness of his mind. The service which he rendered to real knowledge is to be estimated, not only from the truths which he discovered, but from the errors which he detected—not merely from the sound principles which he established, but from the pernicious idols which he overthrew. The dialogues on the system are written with such singular felicity, that one reads them at the present day, when the truths contained in them are known and admitted, with all the delight of novelty, and feels one's self carried back to the period when the telescope was first directed to the heavens, and when the earth's motion, with all its train of consequences, was proved for the first time.”*

The first Dialogue is opened by an attack upon the arguments by which Aristotle pretended to determine *à priori* the necessary motions belonging to different parts of the world, and on his favourite principle that particular motions belong naturally to particular substances. Salviati (representing Galileo) then objects to the Aristotelian distinctions between the corruptible elements and incorruptible skies, instancing among other things the solar spots and newly appearing stars, as arguments that the other heavenly bodies may probably be subjected to changes similar to those which are continually occurring on the earth, and that it is the great distance alone which prevents their being observed. After a long discussion on this point, Sagredo exclaims, “I see into the heart of Simplicio, and perceive that he is much moved by the force of these too conclusive arguments; but methinks I hear him say—‘Oh, to whom must we betake ourselves to settle our disputes if Aristotle be removed from the chair? What

* See page 56.

* Playfair's Dissertation, Supp. Encyc. Brit.

other author have we to follow in our schools, our studies, and academies? What philosopher has written on all the parts of Natural Philosophy, and so methodically as not to have overlooked a single conclusion? Must we then desolate this fabric, by which so many travellers have been sheltered? Must we destroy this asylum, this Prytaneum wherein so many students have found a convenient resting-place, where without being exposed to the injuries of the weather, one may acquire an intimate knowledge of nature, merely by turning over a few leaves? Shall we level this bulwark, behind which we are safe from every hostile attack? I pity him no less than I do one who at great expense of time and treasure, and with the labour of hundreds, has built up a very noble palace; and then, because of insecure foundations, sees it ready to fall—unable to bear that those walls be stripped that are adorned with so many beautiful pictures, or to suffer those columns to fall that uphold the stately galleries, or to see ruined the gilded roofs, the chimney-pieces, the friezes, and marble cornices erected at so much cost, he goes about it with girders and props, with shores and buttresses, to hinder its destruction.”

Salviati proceeds to point out the many points of similarity between the earth and moon, and among others which we have already mentioned, the following remark deserves especial notice:—

“Just as from the mutual and universal tendency of the parts of the earth to form a whole, it follows that they all meet together with equal inclination, and that they may unite as closely as possible, assume the spherical form; why ought we not to believe that the moon, the sun, and other mundane bodies are also of a round figure, from no other reason than from a common instinct and natural concourse of all their component parts; of which if by accident any one should be violently separated from its whole, is it not reasonable to believe that spontaneously, and of its natural instinct, it would return? It may be added that if any centre of the universe may be assigned, to which the whole terrene globe if thence removed would seek to return, we shall find most probable that the sun is placed in it, as by the sequel you shall understand.”

Many who are but superficially ac-

quainted with the History of Astronomy, are apt to suppose that Newton's great merit was in his being the first to suppose an attractive force existing in and between the different bodies composing the solar system. This idea is very erroneous; Newton's discovery consisted in conceiving and proving the identity of the force with which a stone falls, and that by which the moon falls, towards the earth (on an assumption that this force becomes weaker in a certain proportion as the distance increases at which it operates), and in generalizing this idea, in applying it to all the visible creation, and tracing the principle of universal gravitation with the assistance of a most refined and beautiful geometry into many of its most remote consequences. But the general notion of an attractive force between the sun, moon, and planets, was very commonly entertained before Newton was born, and may be traced back to Kepler, who was probably the first modern philosopher who suggested it. The following extraordinary passages from his “Astronomy” will shew the nature of his conceptions on this subject:—

“The true doctrine of gravity is founded on these axioms: every corporeal substance, so far forth as it is corporeal, has a natural fitness for resting in every place where it may be situated by itself beyond the sphere of influence of its cognate body. Gravity is a mutual affection between cognate bodies towards union or conjunction (similar in kind to the magnetic virtue), so that the earth attracts a stone much rather than the stone seeks the earth. Heavy bodies (if in the first place we put the earth in the centre of the world) are not carried to the centre of the world in its quality of centre of the world, but as to the centre of a cognate round body, namely the earth. So that wheresoever the earth may be placed or whithersoever it may be carried by its animal faculty, heavy bodies will always be carried towards it. If the earth were not round heavy bodies would not tend from every side in a straight line towards the centre of the earth, but to different points from different sides. If two stones were placed in any part of the world near each other and beyond the sphere of influence of a third cognate body, these stones, like two magnetic needles, would come together in the intermediate point, each approaching the other by a space pro-

portional to the comparative mass of the other. If the moon and earth were not retained in their orbits by their animal force or some other equivalent, the earth would mount to the moon by a fifty-fourth part of their distance, and the moon fall towards the earth through the other fifty-three parts, and would there meet, assuming however that the substance of both is of the same density. If the earth should cease to attract its waters to itself, all the waters of the sea would be raised, and would flow to the body of the moon*."

He also conjectured that the irregularities in the moon's motion were caused by the joint action of the sun and earth, and recognized the mutual action of the sun and planets, when he declared the mass and density of the sun to be so great that the united attraction of the other planets cannot remove it from its place. Among these bold and brilliant ideas, his temperament led him to introduce others which show how unsafe it was to follow his guidance, and which account for, if they do not altogether justify, the sarcastic remark of Ross, that "Kepler's opinion that the planets are moved round by the sunne, and that this is done by sending forth a magnetic virtue, and that the sun-beames are like the teethe of a wheele taking hold of the planets, are senselesse crotchets fitter for a wheeler or a miller than a philosopher."† Roberval took up Kepler's notions, especially in the tract which he falsely attributed to Aristarchus, and it is much to be regretted that Roberval should deserve credit for anything connected with that impudent fraud. The principle of universal gravitation, though not the varying proportion, is distinctly assumed in it, as the following passages will sufficiently prove: "In every single particle of the earth, and the terrestrial elements, is a certain property or accident which we suppose common to the whole system of the world, by virtue of which all its parts are forced together, and reciprocally attract each other; and this property is found in a greater or less degree in the different particles, according to their density. If the earth be considered by itself, its centres of magnitude and virtue, or gravity, as we usually call it, will coincide, to which all its parts, tend in a straight line, as

well by their own exertion or gravity, as by the reciprocal attraction of all the rest." In a subsequent chapter, Roberval repeats these passages nearly in the same words, applying them to the whole solar system, adding, that "the force of this attraction is not to be considered as residing in the centre itself, as some ignorant people think, but in the whole system whose parts are equally disposed round the centre*". This very curious work was reprinted in the third volume of the *Reflexiones Physico-Mathematicæ* of Mersenne, from whom Roberval pretended to have received the Arabic manuscript, and who is thus irretrievably implicated in the forgery.† The last remark, denying the attractive force to be due to any property of the central point, seems aimed at Aristotle, who, in a no less curious passage, maintaining exactly the opposite opinion, says, "Hence, we may better understand what the ancients have related, that like things are wont to have a tendency to each other. For this is not absolutely true; for if the earth were to be removed to the place now occupied by the moon, no part of the earth would then have a tendency towards that place, but would still fall towards the point which the earth's centre now occupies."‡ Mersenne considered the consequences of the attractive force of each particle of matter so far as to remark, that if a body were supposed to fall towards the centre of the earth, it would be retarded by the attraction of the part through which it had already fallen.§ Galileo had not altogether neglected to speculate on such a supposition, as is plain from the following extract. It is taken from a letter to Carcaville, dated from Arcetri, in 1637. "I will say farther, that I have not absolutely and clearly satisfied myself that a heavy body would arrive sooner at the centre of the earth, if it began to fall from the distance only of a single yard, than another which should start from the distance of a thousand miles. I do not affirm this, but I offer it as a paradox."¶

It is very difficult to offer any satisfactory comment upon this passage; it may be sufficient to observe that this paradoxical result was afterwards de-

* Aristarchi Samii de Mundi Systemate, Parisiis 1644.

† See page 12.

‡ De Cælo, lib. iv. cap. 3.

§ Reflexiones Physico-Mathematicæ, Parisiis, 1647.

¶ Venturi.

* Astronomia Nova, Prægæ. 1609.

† The new Planet no Planet, or the Earth no wandering Star, except in the wandering heads of Galileans. London, 1646.

duced by Newton, as one of the consequences of the general law with which all nature is pervaded, but with which there is no reason to believe that Galileo had any acquaintance; indeed the idea is fully negatived by other passages in this same letter. This is one of the many instances from which we may learn to be cautious how we invest detached passages of the earlier mathematicians with a meaning which in many cases their authors did not contemplate. The progressive development of these ideas in the hands of Wallis, Huyghens, Hook, Wren, and Newton, would lead us too far from our principal subject. There is another passage in the third dialogue connected with this subject, which it may be as well to notice in this place. "The parts of the earth have such a propensity to its centre, that when it changes its place, although they may be very distant from the globe at the time of the change, yet must they follow. An example similar to this is the perpetual sequence of the Medicean stars, although always separated from Jupiter. The same may be said of the moon, obliged to follow the earth. And this may serve for those simple ones who have difficulty in comprehending how these two globes, not being chained together, nor strung upon a pole, mutually follow each other, so that on the acceleration or retardation of the one, the other also moves quicker or slower."

The second Dialogue is appropriated chiefly to the discussion of the diurnal motion of the earth; and the principal arguments urged by Aristotle, Ptolemy, and others, are successively brought forward and confuted. The opposers of the earth's diurnal motion maintained, that if it were turning round, a stone dropped from the top of a tower would not fall at its foot; but, by the rotation of the earth to the eastward carrying away the tower with it, would be left at a great distance to the westward; it was common to compare this effect to a stone dropped from the mast-head of a ship, and without any regard to truth it was boldly asserted that this would fall considerably nearer the stern than the foot of the mast, if the ship were in rapid motion. The same argument was presented in a variety of forms,—such as that a cannon-ball shot perpendicularly upwards would not fall at the same spot; that if fired to the eastward it would fly farther than to the westward;

that a mark to the east or west would never be hit, because of the rising or sinking of the horizon during the flight of the ball; that ladies ringlets would all stand out to the westward,* with other conceits of the like nature: to which the general reply is given, that in all these cases the stone, or ball, or other body, participates equally in the motion of the earth, which, therefore, so far as regards the relative motion of its parts, may be disregarded. The manner in which this is illustrated, appears in the following extract from the dialogue:—*Sagredo*. If the nib of a writing pen which was in the ship during my voyage direct from Venice to Alexandria, had had the power of leaving a visible mark of all its path, what trace, what mark, what line would it have left?—*Simplicio*. It would have left a line stretched out thither from Venice not perfectly straight, or to speak more correctly, not perfectly extended in an exact circular arc, but here and there more and less curved accordingly as the vessel had pitched more or less; but this variation in some places of one or two yards to the right or left, or up or down in a length of many hundred miles, would have occasioned but slight alteration in the whole course of the line, so that it would have been hardly sensible, and without any great error we may speak of it as a perfectly circular arc.—*Sagred*. So that the true and most exact motion of the point of the pen would also have been a perfect arc of a circle if the motion of the vessel, abstracting from the fluctuations of the waves, had been steady and gentle; and if I had held this pen constantly in my hand, and had merely moved it an inch or two one way or the other, what alteration would that have made in the true and principal motion?—*Simpl*. Less than that which would be occasioned in a line a thousand yards long, by varying here and there from perfect straightness by the quantity of a flea's eye.—*Sagred*. If then a painter on our quitting the port had begun to draw with this pen on paper, and had continued his drawing till we got to Alexandria, he would have been able by its motion, to produce an accurate representation of many objects perfectly shadowed, and filled up on all sides with landscapes, buildings, and animals, although all the true, real, and essential motion of the point of his pen would have been no other but a very

long and very simple line; and as to the peculiar work of the painter, he would have drawn it exactly the same if the ship had stood still. Therefore, of the very protracted motion of the pen, there remain no other traces than those marks drawn upon the paper, the reason of this being that the great motion from Venice to Alexandria was common to the paper, the pen, and everything that was in the ship; but the trifling motion forwards and backwards, to the right and left, communicated by the painter's fingers to the pen, and not to the paper, from being peculiar to the pen, left its mark upon the paper, which as to this motion was immovable. Thus it is likewise true that in the supposition of the earth's rotation, the motion of a falling stone is really a long track of many hundreds and thousands of yards; and if it could have delineated its course in the calm air, or on any other surface, it would have left behind it a very long transversal line; but that part of all this motion which is common to the stone, the tower, and ourselves, is imperceptible by us and the same as if not existing, and only that part remains to be observed of which neither we nor the tower partake, which in short is the fall of the stone along the tower."

The mechanical doctrines introduced into this second dialogue will be noticed on another occasion; we shall pass on to other extracts, illustrative of the general character of Galileo's reasoning:—*Salviati*. I did not say that the earth has no principle, either internal or external, of its motion of rotation, but I do say that I know not which of the two it has, and that my ignorance has no power to take its motion away; but if this author knows by what principle other mundane bodies, of the motion of which we are certain, are turned round, I say that what moves the Earth is something like that by which Mars and Jupiter, and, as he believes, the starry sphere, are moved round; and if he will satisfy me as to the cause of their motion, I bind myself to be able to tell him what moves the earth. Nay more; I undertake to do the same if he can teach me what it is which moves the parts of the earth downwards.—*Simpl.* The cause of this effect is notorious, and every one knows that it is Gravity.—*Salv.* You are out, Master Simplicio; you should say that every one knows that it is called Gravity; but I do not ask you the name but the na-

ture of the thing, of which nature you do not know one tittle more than you know of the nature of the moving cause of the rotation of the stars, except it be the name which has been given to the one, and made familiar and domestic, by the frequent experience we have of it many thousand times in a day; but of the principle or virtue by which a stone falls to the ground, we really know no more than we know of the principle which carries it upwards when thrown into the air, or which carries the moon round its orbit, except, as I have said, the name of gravity which we have peculiarly and exclusively assigned to it; whereas we speak of the other with a more generic term, and talk of the virtue impressed, and call it either an assisting or an informing intelligence, and are content to say that Nature is the cause of an infinite number of other motions."

Simplicio is made to quote a passage from Scheiner's book of Conclusions against Copernicus, to the following effect:—"If the whole earth and water were annihilated, no hail or rain would fall from the clouds, but would only be naturally carried round in a circle, nor would any fire or fiery thing ascend, since, according to the not improbable opinion of these others, there is no fire in the upper regions."—*Salv.* The foresight of this philosopher is most admirable and praiseworthy, for he is not content with providing for things that might happen during the common course of nature, but persists in shewing his care for the consequences of what he very well knows will never come to pass. Nevertheless, for the sake of hearing some of his notable conceits, I will grant that if the earth and water were annihilated there would be no more hail or rain, nor would fiery matter ascend any more, but would continue a motion of revolution. What is to follow? What conclusion is the philosopher going to draw?—*Simpl.* This objection is in the very next words—'Which nevertheless (says he) is contrary to experience and reason.'—*Salv.* Now I must yield: since he has so great an advantage over me as experience, with which I am quite unprovided. For hitherto I have never happened to see the terrestrial earth and water annihilated, so as to be able to observe what the hail and fire did in the confusion. But does he tell us for our information at least what they did?—*Simpl.* No, he does not say any thing more.—

Salv. I would give something to have a word or two with this person, to ask him whether, when this globe vanished, it also carried away the common centre of gravity, as I fancy it did, in which case I take it that the hail and water would remain stupid and confounded amongst the clouds, without knowing what to do with themselves. . . . And lastly, that I may give this philosopher a less equivocal answer, I tell him that I know as much of what would follow after the annihilation of the terrestrial globe, as he could have known what was about to happen in and about it, before it was created."

Great part of the third Dialogue is taken up with discussions on the parallax of the new stars of 1572 and 1604, in which Delambre notices that Galileo does not employ logarithms in his calculations, although their use had been known since Napier discovered them in 1616: the dialogue then turns to the annual motion "first taken from the Sun and conferred upon the Earth by Aristarchus Samius, and afterwards by Copernicus." Salvati speaks of his contemporary philosophers with great contempt—"If you had ever been worn out as I have been many and many a time with hearing what sort of stuff is sufficient to make the obstinate vulgar unpersuadable, I do not say to agree with, but even to listen to these novelties, I believe your wonder at finding so few followers of these opinions would greatly fall off. But little regard in my judgment is to be had of those understandings who are convinced and immoveably persuaded of the fixedness of the earth, by seeing that they are not able to breakfast this morning at Constantinople, and sup in the evening in Japan, and who feel satisfied that the earth, so heavy as it is, cannot climb up above the sun, and then come tumbling in a breakneck fashion down again!"* This remark serves to introduce several specious arguments against the annual motion of the earth, which are successively confuted, and it is shewn how readily the apparent stations and retrogradations of the planets are accounted for on this supposition.

The following is one of the frequently recurring passages in which Galileo, whilst arguing in favour of the enormous distances at which the theory of Copernicus necessarily placed the fixed stars, inveighs against the arrogance with which men pretend to judge of matters removed above their comprehension. "*Simpl.* All this is very well, and it is not to be denied that the heavens may surpass in bigness the capacity of our imaginations, as also that God might have created it yet a thousand times larger than it really is, but we ought not to admit anything to be created in vain, and useless in the universe. Now whilst we see this beautiful arrangement of the planets, disposed round the earth at distances proportioned to the effects they are to produce on us for our benefit, to what purpose should a vast vacancy be afterwards interposed between the orbit of Saturn and the starry spheres, containing not a single star, and altogether useless and unprofitable? to what end? for whose use and advantage?"—*Salv.* Methinks we arrogate too much to ourselves, Simplicio, when we will have it that the care of us alone is the adequate and sufficient work and bound, beyond which the divine wisdom and power does and disposes of nothing. I feel confident that nothing is omitted by the Divine Providence of what concerns the government of human affairs; but that there may not be other things in the universe dependant upon His supreme wisdom, I cannot for myself, by what my reason holds out to me, bring myself to believe. So that when I am told of the uselessness of an immense space interposed between the orbits of the planets and the fixed stars, empty and valueless, I reply that there is temerity in attempting by feeble reason to judge the works of God, and in calling vain and superfluous every part of the universe which is of no use to us.—*Sagr.* Say rather, and I believe you would say better, that we have no means of knowing what is of use to us; and I hold it to be one of the greatest pieces of arrogance and folly that can be in this world to say, because I know not of what use Jupiter or Saturn are to me, that therefore these planets are superfluous; nay more, that there are no such things in nature. To understand what effect is worked upon us by this or that heavenly body (since you will have it that all their use must have a reference to us), it would be necessary to remove it for a

* The notions commonly entertained of 'up' and 'down,' as connected with the observer's own situation, had long been a stumbling-block in the way of the new doctrines. When Columbus held out the certainty of arriving in India by sailing to the westward on account of the earth's roundness, it was gravely objected, that it might be well enough to sail down to India, but that the chief difficulty would consist in climbing up back again.

while, and then the effect which I find no longer produced in me, I may say that it depended upon that star. Besides, who will dare say that the space which they call too vast and useless between Saturn and the fixed stars is void of other bodies belonging to the universe. Must it be so because we do not see them: then I suppose the four Medicean planets, and the companions of Saturn, came into the heavens when we first began to see them, and not before! and, by the same rule, the other innumerable fixed stars did not exist before men saw them. The nebulae were till lately only white flakes, till with the telescope we have made of them constellations of bright and beautiful stars. Oh presumptuous! rather, Oh rash ignorance of man!"

After a discussion on Gilbert's Theory of Terrestrial Magnetism, introduced by the parallelism of the earth's axis, and of which Galileo praises very highly both the method and results, the dialogue proceeds as follows:—"Simpl. It appears to me that Sig. Salviati, with a fine circumlocution, has so clearly explained the cause of these effects, that any common understanding, even though unacquainted with science, may comprehend it: but we, confining ourselves to the terms of art, reduce the cause of these and other similar natural phenomena to sympathy, which is a certain agreement and mutual appetency arising between things which have the same qualities, just as, on the other hand, that disagreement and aversion, with which other things naturally repel and abhor each other, we style antipathy.—Sagr. And thus with these two words they are able to give a reason for the great number of effects and accidents which we see, not without admiration, to be produced in Nature. But it strikes me that this mode of philosophising has a great sympathy with the style in which one of my friends used to paint: on one part of the canvas he would write with chalk—there I will have a fountain, with Diana and her nymphs; here some harriers; in this corner I will have a huntsman, with a stag's head; the rest may be a landscape of wood and mountain; and what remains to be done may be put in by the colourman: and thus he flattered himself that he had painted the story of Actæon, having contributed nothing to it beyond the names."

The fourth Dialogue is devoted entirely to an examination of the tides, and

is a development and extension of the treatise already mentioned to have been sent to the Archduke Leopold, in 1618*. Galileo was uncommonly partial to his theory of the tides, from which he thought to derive a direct proof of the earth's motion in her orbit; and although his theory was erroneous, it required a farther advance in the science of motion than had been attained even at a much later period to point out the insufficiency of it. It is well known that the problem of explaining the cause of this alternate motion of the waters had been considered from the earliest ages one of the most difficult that could be proposed, and the solutions with which different inquirers were obliged to rest contented, shew that it long deserved the name given to it, of "the grave of human curiosity†." Riccioli has enumerated several of the opinions which in turn had their favourers and supporters. One party supposed the rise of the waters to be occasioned by the influx of rivers into the sea; others compared the earth to a large animal, of which the tides indicated the respiration; a third theory supposed the existence of subterraneous fires, by which the sea was periodically made to boil; others attributed the cause of a similar change of temperature to the sun and moon.

There is an unfounded legend, that Aristotle drowned himself in despair of being able to invent a plausible explanation of the extraordinary tides in the Euripus. His curiosity on the subject does not appear to have been so acute (judging from his writings) as this story would imply. In one of his books he merely mentions a rumour, that there are great elevations or swellings of the seas, which recur periodically, according to the course of the moon. Lalande, in the fourth volume of his *Astronomy*, has given an interesting account of the opinion of the connection of the tides with the moon's motion. Pytheas of Marseilles, a contemporary of Aristotle, was the first who has been recorded as observing, that the full tides occur at full moon, and the ebbs at new moon‡. This is not quite correctly stated; for the tide of new moon is known to be still higher than the rise at the full, but it is likely enough, that the seeming inaccuracy should be attributed, not to

* See page 50.

† Riccioli *Almag.* Nov.

‡ Plutarch, *De placit.* Philos. lib. iii. c. 17.

Pytheas, but to his biographer Plutarch, who, in many instances, appears to have viewed the opinions of the old philosophers through the mist of his own prejudices and imperfect information. The fact is, that, on the same day when the tide rises highest, it also ebbs lowest; and Pytheas, who, according to Pliny, had recorded a tide in Britain of eighty cubits, could not have been ignorant of this. Posidonius, as quoted by Strabo, maintained the existence of three periods of the tide, daily, monthly, and annual, "in sympathy with the moon." * Pliny, in his vast collection of natural observations, not unaptly styled the *Encyclopædia* of the Antients, has the following curious passages:—
 "The flow and ebb of the tide is very wonderful; it happens in a variety of ways, but the cause is in the sun and moon†." He then very accurately describes the course of the tide during a revolution of the moon, and adds: "The flow takes place every day at a different hour; being waited on by the star, which rises every day in a different place from that of the day before, and with greedy draught drags the seas with it‡." "When the moon is in the north, and further removed from the earth, the tides are more gentle than when digressing to the south, she exerts her force with a closer effort§."

The College of Jesuits at Coimbra appears to deserve the credit of first clearly pointing out the true relation between the tides and the moon, which was also maintained a few years later by Antonio de Dominis and Kepler. In the Society's commentary on Aristotle's book on Meteors, after refuting the notion that the tides are caused by the light of the sun and moon, they say, "It appears more probable to us, without any rarefaction, of which there appears no need or indication, that the moon raises the waters by some inherent power of impulsion, in the same manner as a magnet moves iron; and according to its different aspects and approaches to the sea, and the obtuse or acute angles of its bearing, at one time to attract and raise the waters along the shore, and then again to leave them to sink down by their own weight, and

to gather into a lower level.*" The theory of Universal Gravitation seems here within the grasp of these philosophers, but unfortunately it did not occur to them that possibly the same attraction might be exerted on the earth as well as the water, and that the tide was merely an effect of the diminution of force, owing to the increase of distance, with which the centre of the earth is attracted, as compared with that exerted on its surface. This idea, so happily seized afterwards by Newton, might at once have furnished them with a satisfactory explanation of the tide, which is observed on the opposite side of the earth as well as immediately under the moon. They might have seen that in the latter case the centre of the earth is pulled away from the water, just as in the former the water is pulled away from the centre of the earth, the sensible effect to us being in both cases precisely the same. For want of this generalization, the inferior tide as it is called presented a formidable obstacle to this theory, and the most plausible explanation that was given was, that this magnetic virtue radiated out from the moon was reflected by the solid heavens, and concentrated again as in a focus on the opposite side of the earth. The majority of modern astronomers who did not admit the existence of any solid matter fit for producing the effect assigned to it, found a reasonable difficulty in acquiescing in this explanation. Galileo, who mentions the Archbishop of Spalatro's book, treated the theory of attraction by the moon as absurd. "This motion of the seas is local and sensible, made in an immense mass of water, and cannot be brought to obey light, and warmth, and predominancy of occult qualities, and such like vain fancies; all which are so far from being the cause of the tide, that on the contrary the tide is the cause of them, inasmuch as it gives rise to these ideas in brains which are more apt for talkativeness and ostentation, than for speculation and inquiry into the secrets of Nature; who, rather than see themselves driven to pronounce these wise, ingenuous, and modest words—*I do not know*,—will blurt out from their tongues and pens all sorts of extravagancies."

Galileo's own theory is introduced by the following illustration, which indeed

* *συμπαθείας τη σελήνῃ*. *Geographiæ*, lib. iii.

† *Historia Naturalis*, lib. ii., c. 97.

‡ *Ut ancillante sidere, trahenteque secum avido hæstu maria.*

§ *Eadem Aquiloniâ, et à terris longius recedente, mitiores quam cum, in Austros digressâ, propiore nisuram suam exercet.*

* *Commentarii Collegii Conimbricensis. Coloniae, 1603.*

probably suggested it, as he was in the habit of suffering no natural phenomena, however trivial in appearance, to escape him. He felt the advantage of this custom in being furnished on all occasions with a stock of homely illustrations, to which the daily experience of his hearers readily assented, and which he could shew to be identical in principle with the phenomena under discussion. That he was mistaken in applying his observations in the present instance cannot be urged against the incalculable value of such a habit.

"We may explain and render sensible these effects by the example of one of those barks which come continually from Lizza Fusina, with fresh water for the use of the city of Venice. Let us suppose one of these barks to come thence with moderate velocity along the canal, carrying gently the water with which it is filled, and then, either by touching the bottom, or from some other hindrance which is opposed to it, let it be notably retarded; the water will not on that account lose like the bark the impetus it has already acquired, but will forthwith run on towards the prow where it will sensibly rise, and be depressed at the stern. If on the contrary the said vessel in the middle of its steady course shall receive a new and sensible increase of velocity, the contained water before giving into it will persevere for some time in its slowness, and will be left behind that is to say towards the stern where consequently it will rise, and sink at the head.—Now, my masters, that which the vessel does in respect of the water contained in it, and that which the water does in respect of the vessel containing it, is the same to a hair as what the Mediterranean vase does in respect of the water which it contains, and that the waters do in respect of the Mediterranean vase which contains them. We have now only to demonstrate how, and in what manner it is true that the Mediterranean, and all other gulfs, and in short all the parts of the earth move with a motion sensibly not uniform, although no motion results thence to the whole globe which is not perfectly uniform and regular."

This unequable motion is derived from a combination of the earth's motion on her axis, and in her orbit, the consequence of which is that a point under the sun is carried in the same direction by the annual and diurnal velocities,

whereas a point on the opposite side of the globe is carried in opposite directions by the annual and diurnal motions, so that in every twenty-four hours the absolute motion through space of every point in the earth completes a cycle of varying swiftness. Those readers who are unacquainted with the mathematical theory of motion must be satisfied with the assurance that this specious representation is fallacious, and that the oscillation of the water does not in the least result from the causes here assigned to it: the reasoning necessary to prove this is not elementary enough to be introduced here with propriety.

Besides the principal daily oscillation of the water, there is a monthly inequality in the rise and fall, of which the extremes are called the spring and neap tides: the manner in which Galileo attempted to bring his theory to bear upon these phenomena is exceedingly curious.

"It is a natural and necessary truth, that if a body be made to revolve, the time of revolution will be greater in a greater circle than in a less: this is universally allowed, and fully confirmed by experiments, such for instance as these:—In wheel clocks, especially in large ones, to regulate the going, the workmen fit up a bar capable of revolving horizontally, and fasten two leaden weights to the ends of it; and if the clock goes too slow, by merely approaching these weights somewhat towards the centre of the bar, they make its vibrations more frequent, at which time they are moving in smaller circles than before*.—Or, if you fasten a weight to a cord which you pass round a pulley in the ceiling, and whilst the weight is vibrating draw in the cord towards you, the vibrations will become sensibly accelerated as the length of the string diminishes. We may observe the same rule to hold among the celestial motions of the planets, of which we have a ready instance in the Medicean planets, which revolve in such short periods round Jupiter. We may therefore safely conclude, that if the moon for instance shall continue to be forced round by the same moving power, and were to move in a smaller circle, it would shorten the time of its revolution. Now this very thing happens in fact to the moon, which I have just advanced on a supposition. Let us call

* See fig. 1. p. 96.

to mind that we have already concluded with Copernicus, that it is impossible to separate the moon from the earth, round which without doubt it moves in a month: we must also remember that the globe of the earth, accompanied always by the moon, revolves in the great circle round the sun in a year, in which time the moon revolves round the earth about thirteen times, whence it follows that the moon is sometimes near the sun, that is to say between the earth and sun, sometimes far from it, when she is on the outside of the earth. Now if it be true that the power which moves the earth and the moon round the sun remains of the same efficacy, and if it be true that the same moveable, acted on by the same force, passes over similar arcs of circles in a time which is least when the circle is smallest, we are forced to the conclusion that at new moon, when in conjunction with the sun, the moon passes over greater arcs of the orbit round the sun, than when in opposition at full moon; and this inequality of the moon will be shared by the earth also. So that exactly the same thing happens as in the balance of the clocks; for the moon here represents the leaden weight, which at one time is fixed at a greater distance from the centre to make the vibrations slower, and at another time nearer to accelerate them."

Wallis adopted and improved this theory in a paper which he inserted in the *Philosophical Transactions* for 1666, in which he declares, that the circular motion round the sun should be considered as taking place at a point which is the centre of gravity of the earth and moon. "To the first objection, that it appears not how two bodies that have no tie can have one common centre of gravity, I shall only answer, that it is harder to show how they have it, than that they have it*." As Wallis was perfectly competent from the time at which he lived, and his knowledge of the farthest advances of science in his time, to appreciate the value of Galileo's writings, we shall conclude this chapter with the judgment that he has passed upon them in the same paper. "Since Galileo, and after him Torricelli and others have applied mechanical principles to the solving of philosophical difficulties, natural philosophy is well known to have been rendered more intelligible, and to have

made a much greater progress in less than a hundred years than before for many ages."

CHAPTER XV.

Galileo at Arcetri—Becomes Blind—Moon's Libration—Publication of the Dialogues on Motion.

WE have already alluded to the imperfect state of the knowledge possessed with regard to Galileo's domestic life and personal habits; there is reason however to think that unpublished materials exist from which these outlines might be in part filled up. Venturi informs us that he had seen in the collection from which he derived a great part of the substance of his *Memoirs* of Galileo, about one hundred and twenty manuscript letters, dated between the years 1623 and 1633, addressed to him by his daughter Maria, who with her sister had attached herself to the convent of St. Matthew, close to Galileo's usual place of residence. It is difficult not to think that much interesting information might be obtained from these, with respect to Galileo's domestic character. The very few published extracts confirm our favourable impressions of it, and convey a pleasing idea of this his favourite daughter. Even when, in her affectionate eagerness to soothe her father's wounded feelings at the close of his imprisonment in Rome, she dwells with delight upon her hopes of being allowed to relieve him, by taking on herself the penitential recitations which formed a part of his sentence, the prevalent feeling excited in every one by the perusal must surely be sympathy with the filial tenderness which it is impossible to misunderstand.

The joy she had anticipated in again meeting her parent, and in compensating to him by her attentive affection the insults of his malignant enemies, was destined to be but of short duration. Almost in the same month in which Galileo returned to Arcetri she was seized with a fatal illness; and already in the beginning of April, 1634, we learn her death from the fruitless condolence of his friends. He was deeply and bitterly affected by this additional blow, which came upon him when he was himself in a weak and declining state of health, and his answers breathe a spirit of the most hopeless and gloomy despondency.

In a letter written in April to Boc-

* Phil. Trans., No. 16, August 1666.

chimeri, his son's father-in-law, he says : "The hernia has returned worse than at first : my pulse is intermitting, accompanied with a palpitation of the heart ; an immeasurable sadness and melancholy ; an entire loss of appetite ; I am hateful to myself ; and in short I feel that I am called incessantly by my dear daughter. In this state, I do not think it advisable that Vincenzo should set out on his journey, and leave me, when every hour something may occur, which would make it expedient that he should be here." In this extremity of ill health, Galileo requested leave to go to Florence for the advantage of medical assistance ; but far from obtaining permission, it was intimated that any additional importunities would be noticed by depriving him of the partial liberty he was then allowed to enjoy. After several years confinement at Arcetri, during the whole of which time he suffered from continual indisposition, the inquisitor Fariano wrote to him in 1638, that the Pope permitted his removal to Florence, for the purpose of recovering his health ; requiring him at the same time to present himself at the Office of the Inquisition, where he would learn the conditions on which this favour had been granted. These were that he should neither quit his house nor receive his friends there ; and so closely was the letter of these instructions adhered to, that he was obliged to obtain a special permission to go out to attend mass during Passion week. The strictness with which all personal intercourse with his friends was interrupted, is manifest from the result of the following letter from the Duke of Tuscany's secretary of state to Nicolini, his ambassador at Rome. "Signor Galileo Galilei, from his great age and the illnesses which afflict him, is in a condition soon to go to another world ; and although in this the eternal memory of his fame and value is already secured, yet his Highness is greatly desirous that the world should sustain as little loss as possible by his death ; that his labours may not perish, but for the public good may be brought to that perfection which he will not be able to give them. He has in his thoughts many things worthy of him, which he cannot be prevailed on to communicate to any but Father Benedetto Castelli, in whom he has entire confidence. His Highness wishes therefore that you should see Castelli, and induce him to procure leave

to come to Florence for a few months for this purpose, which his Highness has very much at heart ; and if he obtains permission, as his Highness hopes, you will furnish him with money and every thing else he may require for his journey." Castelli, it will be remembered, was at this time salaried by the court of Rome. Nicolini answered that Castelli had been himself to the Pope to ask leave to go to Florence. Urban immediately intimated his suspicions that his design was to see Galileo, and upon Castelli's stating that certainly it would be impossible for him to refrain from attempting to see him, he received permission to visit him in the company of an officer of the Inquisition. At the end of some months Galileo was remanded to Arcetri, which he never again quitted.

In addition to his other infirmities, a disorder which some years before had affected the sight of his right eye returned in 1636 ; in the course of the ensuing year the other eye began to fail also, and in a few months he became totally blind. It would be difficult to find any even among those who are the most careless to make a proper use of the invaluable blessing of sight, who could bear unmoved to be deprived of it, but on Galileo the loss fell with peculiar and terrible severity ; on him who had boasted that he would never cease from using the senses which God had given him, in declaring the glory of his works, and the business of whose life had been the splendid fulfilment of that undertaking. "The noblest eye is darkened," said Castelli, "which nature ever made : an eye so privileged, and gifted with such rare qualities, that it may with truth be said to have seen more than all of those who are gone, and to have opened the eyes of all who are to come." His own patience and resignation under this fatal calamity are truly wonderful ; and if occasionally a word of complaint escaped him, it was in the chastened tone of the following expressions—"Alas ! your dear friend and servant Galileo has become totally and irreparably blind ; so that this heaven, this earth, this universe, which with wonderful observations I had enlarged a hundred and thousand times beyond the belief of by-gone ages, henceforward for me is shrunk into the narrow space which I myself fill in it.—So it pleases God ! it shall therefore please me also." Hopes were at first enter-

tained by Galileo's friends, that the blindness was occasioned by cataracts, and that he might look forward to relief from the operation of couching; but it very soon appeared that the disorder was not in the humours of the eye, but in a cloudiness of the cornea, the symptoms of which all external remedies failed to alleviate.

As long as the power was left him, he had indefatigably continued his astronomical observations. Just before his sight began to decay, he had observed a new phenomenon in the moon, which is now known by the name of the moon's libration, the nature of which we will shortly explain. A remarkable circumstance connected with the moon's motion is, that the same side is always visible from the earth, showing that the moon turns once on her own axis in exactly the time of her monthly revolution.* But Galileo, who was by this time familiar with the whole of the moon's visible surface, observed that the above-mentioned effect does not accurately take place, but that a small part on either side comes alternately forward into sight, and then again recedes, according to the moon's various positions in the heavens. He was not long in detecting one of the causes of this apparent libratory or rocking motion. It is partly occasioned by our distance as spectators from the centre of the earth, which is also the centre of the moon's motion. In consequence of this, as the moon rises in the sky we get an additional view of the lower half, and lose sight of a small part of the upper half which was visible to us while we were looking down upon her when low in the horizon. The other cause is not quite so simple, nor is it so certain that Galileo adverted to it: it is however readily intelligible even to those who are unacquainted with astronomy, if they will receive as a fact that the monthly motion of the moon is not uniform, but that she moves quicker at one time than another, whilst the motion of rotation on her own axis, like that of the earth, is perfectly uniform. A very little reflection will show that the observed phenomenon

will necessarily follow. If the moon did not turn on her axis, every side of her would be successively presented, in the course of a month, towards the earth; it is the motion of rotation which tends to carry the newly discovered parts out of sight.

Let us suppose the moon to be in that part of her orbit where she moves with her average motion, and that she is moving towards the part where she moves most quickly. If the motion in the orbit were to remain the same all the way round, the motion of rotation would be just sufficient at every point to bring round the same part of the moon directly in front of the earth. But since, from the supposed point, the moon is moving for some time round the earth with a motion continually growing quicker, the motion of rotation is not sufficiently quick to carry out of sight the entire part discovered by the motion of translation. We therefore get a glimpse of a narrow strip on the side *from* which the moon is moving, which strip grows broader and broader, till she passes the point where she moves most swiftly, and reaches the point of average swiftness on the opposite side of her orbit. Her motion is now continually growing slower, and therefore from this point the motion of rotation is too swift, and carries too much out of sight, or in other words, brings into sight a strip on the side *towards* which the moon is moving. This increases till she passes the point of least swiftness, and arrives at the point from which we began to trace her course, and the phenomena are repeated in the same order.

This interesting observation closes the long list of Galileo's discoveries in the heavens. After his abjuration, he ostensibly withdrew himself in a great measure from his astronomical pursuits, and employed himself till 1636 principally with his *Dialogues on Motion*, the last work of consequence that he published. In that year he entered into correspondence with the Elzevirs, through his friend Micanzio, on the project of printing a complete edition of his writings. Among the letters which Micanzio wrote on the subject is one intimating that he had enjoyed the gratification, in his quality of Theologian to the Republic of Venice, of refusing his sanction to a work written against Galileo and Copernicus. The temper however in which this refusal was an-

* Frisi says that Galileo did not perceive this conclusion (*Elogio del Galileo*); but see 1 *he Dial. on the System*, Dial. I. pp. 61, 62, 85. Edit. 1744. Plutarch says, (*De Placitis Philos. lib. ii. c. 28.*) that the Pythagoreans believed the moon to have inhabitants fifteen times as large as men, and that their day is fifteen times as long as ours. It seems probable, that the former of these opinions was engrained on the latter, which is true, and implies a perception of the fact in the text.

nounced, contrasts singularly with that of the Roman Inquisitors. "A book was brought to me which a Veronese Capuchin has been writing, and wished to print, denying the motion of the earth. I was inclined to let it go, to make the world laugh, for the ignorant beast entitles every one of the twelve arguments which compose his book, 'An irrefragable and undeniable demonstration,' and then adduces nothing but such childish trash as every man of sense has long discarded. For instance, this poor animal understands so much geometry and mathematics, that he brings forward as a demonstration, that if the earth could move, having nothing to support it, it must necessarily fall. He ought to have added that then we should catch all the quails. But when I saw that he speaks indecently of you, and has had the impudence to put down an account of what passed lately, saying that he is in possession of the whole of your process and sentence, I desired the man who brought it to me to go and be hanged. But you know the ingenuity of impertinence; I suspect he will succeed elsewhere, because he is so enamoured of his absurdities, that he believes them more firmly than his Bible."

After Galileo's condemnation at Rome, he had been placed by the Inquisition in the list of authors the whole of whose writings, '*edita et edenda*,' were strictly forbidden. Micanzio could not even obtain permission to reprint the Essay on Floating Bodies, in spite of his protestations that it did not in any way relate to the Copernican theory. This was the greatest stigma with which the Inquisition were in the habit of branding obnoxious authors; and, in consequence of it, when Galileo had completed his Dialogues on Motion, he found great difficulty in contriving their publication, the nature of which may be learned from the account which Pieroni sent to Galileo of his endeavours to print them in Germany. He first took the manuscript to Vienna, but found that every book printed there must receive the approbation of the Jesuits; and Galileo's old antagonist, Scheiner, happening to be in that city, Pieroni feared lest he should interfere to prevent the publication altogether, if the knowledge of it should reach him. Through the intervention of Cardinal Dietrichstein, he therefore got permission to have it printed at Olmutz, and that it should be approved by a Dominican, so as to

keep the whole business a secret from Scheiner and his party; but during this negociation the Cardinal suddenly died, and Pieroni being besides dissatisfied with the Olmutz type, carried back the manuscript to Vienna, from which he heard that Scheiner had gone into Silesia. A new approbation was there procured, and the work was just on the point of being sent to press, when the dreaded Scheiner re-appeared in Vienna, on which Pieroni again thought it advisable to suspend the impression till his departure. In the mean time his own duty as a military architect in the Emperor's service carried him to Prague, where Cardinal Harrach, on a former occasion, had offered him the use of the newly-erected University press. But Harrach happened not to be at Prague, and this plan like the rest became abortive. In the meantime Galileo, wearied with these delays, had engaged with Louis Elzevir, who undertook to print the Dialogues at Amsterdam.

It is abundantly evident from Galileo's correspondence that this edition was printed with his full concurrence, although, in order to obviate further annoyance, he pretended that it was pirated from a manuscript copy which he sent into France to the Comte de Noailles, to whom the work is dedicated. The same dissimulation had been previously thought necessary, on occasion of the Latin translation of "The Dialogues on the System," by Bernegger, which Galileo expressly requested through his friend Deodati, and of which he more than once privately signified his approbation, presenting the translator with a valuable telescope, although he publicly protested against its appearance. The story which Bernegger introduced in his preface, tending to exculpate Galileo from any share in the publication, is by his own confession a mere fiction. Noailles had been ambassador at Rome, and, by his conduct there, well deserved the compliment which Galileo paid him on the present occasion.

As an introduction to the account of this work, which Galileo considered the best he had ever produced, it will become necessary to premise a slight sketch of the nature of the mechanical philosophy which he found prevailing, nearly as it had been delivered by Aristotle, with the same view with which we introduced specimens of the astronomical opinions current when Galileo began to write on that subject: they serve to show the nature

and objects of the reasoning which he had to oppose; and, without some exposition of them, the aim and value of many of his arguments would be imperfectly understood and appreciated.

CHAPTER XVI.

State of the Science of Motion before Galileo.

It is generally difficult to trace any branch of human knowledge up to its origin, and more especially when, as in the case of mechanics, it is very closely connected with the immediate wants of mankind. Little has been told to us when we are informed that so soon as a man might wish to remove a heavy stone, "he would be led, by natural instinct, to slide under it the end of some long instrument, and that the same instinct would teach him either to raise the further end, or to press it downwards, so as to turn round upon some support placed as near to the stone as possible*."

Montucla's history would have lost nothing in value, if, omitting "this philosophical view of the birth of the art," he had contented himself with his previous remark, that there can be little doubt that men were familiar with the use of mechanical contrivances long before the idea occurred of enumerating or describing them, or even of examining very closely the nature and limits of the aid they are capable of affording. The most careless observer indeed could scarcely overlook that the weights heaved up with a lever, or rolled along a slope into their intended places, reached them more slowly than those which the workmen could lift directly in their hands; but it probably needed a much longer time to enable them to see the exact relation which, in these and all other machines, exists between the increase of the power to move, and the decreasing swiftness of the thing moved.

In the preface to Galileo's *Treatise on Mechanical Science*, published in 1592, he is at some pains to set in a clear light the real advantages belonging to the use of machines, "which (says he) I have thought it necessary to do, because, if I mistake not, I see almost all mechanics deceiving themselves in the belief that, by the help of a machine, they can raise a greater weight than they are able to lift by the exertion of the

same force without it.—Now if we take any determinate weight, and any force, and any distance whatever, it is beyond doubt that we can move the weight to that distance by means of that force; because even although the force may be exceedingly small, if we divide the weight into a number of fragments, each of which is not too much for our force, and carry these pieces one by one, at length we shall have removed the whole weight; nor can we reasonably say at the end of our work, that this great weight has been moved and carried away by a force less than itself, unless we add that the force has passed several times over the space through which the whole weight has gone but once. From which it appears that the velocity of the force (understanding by velocity the space gone through in a given time) has been as many times greater than that of the weight, as the weight is greater than the force: nor can we on that account say that a great force is overcome by a small one, contrary to nature: then only might we say that nature is overcome when a small force moves a great weight as swiftly as itself, which we assert to be absolutely impossible with any machine either already or hereafter to be contrived. But since it may occasionally happen that we have but a small force, and want to move a great weight without dividing it into pieces, then we must have recourse to a machine by means of which we shall remove the given weight, with the given force, through the required space. But nevertheless the force as before will have to travel over that very same space as many times repeated as the weight surpasses its power, so that, at the end of our work, we shall find that we have derived no other benefit from our machine than that we have carried away the same weight altogether, which if divided into pieces we could have carried without the machine, by the same force, through the same space, in the same time. This is one of the advantages of a machine, because it often happens that we have a lack of force but abundance of time, and that we wish to move great weights all at once."

This compensation of force and time has been fancifully personified by saying that Nature cannot be cheated, and in scientific treatises on mechanics, is called the "principle of virtual velocities," consisting in the theorem that two weights will balance each other on any

* *Histoire des Mathématiques*, vol. i. p. 97.

machine, no matter how complicated or intricate the connecting contrivances may be, when one weight bears to the other the same proportion that the space through which the latter would be raised bears to that through which the former would sink, in the first instant of their motion, if the machine were stirred by a third force. The whole theory of machines consists merely in generalizing and following out this principle into its consequences; combined, when the machines are in a state of motion, with another principle equally elementary, but to which our present subject does not lead us to allude more particularly.

The credit of making known the principle of virtual velocities is universally given to Galileo; and so far deservedly, that he undoubtedly perceived the importance of it, and by introducing it everywhere into his writings succeeded in recommending it to others; so that five and twenty years after his death, Borelli, who had been one of Galileo's pupils, calls it "that mechanical principle with which everybody is so familiar*" and from that time to the present it has continued to be taught as an elementary truth in most systems of mechanics. But although Galileo had the merit in this, as in so many other cases, of familiarizing and reconciling the world to the reception of truth, there are remarkable traces before his time of the employment of this same principle, some of which have been strangely disregarded. Lagrange asserts† that the ancients were entirely ignorant of the principle of virtual velocities, although Galileo, to whom he refers it, distinctly mentions that he himself found it in the writings of Aristotle. Montucla quotes a passage from Aristotle's *Physics*, in which the law is stated generally, but adds that he did not perceive its immediate application to the lever, and other machines. The passage to which Galileo alludes is in Aristotle's *Mechanics*, where, in discussing the properties of the lever, he says expressly, "the same force will raise a greater weight, in proportion as the force is applied at a greater distance from the fulcrum, and the reason, as I have already said, is because it describes a greater circle; and a weight which is farther removed from the centre is made to move through a greater space."‡

It is true, that in the last mentioned treatise, Aristotle has given other reasons which belong to a very different kind of philosophy, and which may lead us to doubt whether he fully saw the force of the one we have just quoted. It appeared to him not wonderful that so many mechanical paradoxes (as he called them) should be connected with circular motion, since the circle itself seemed of so paradoxical a nature. "For, in the first place, it is made up of an immoveable centre, and a moveable radius, qualities which are contrary to each other. 2dly. Its circumference is both convex and concave. 3dly. The motion by which it is described is both forward and backward, for the describing radius comes back to the place from which it started. 4thly. The radius is one; but every point of it moves in describing the circle with a different degree of swiftness."

Perhaps Aristotle may have borrowed the idea of virtual velocities, contrasting so strongly with his other physical notions, from some older writer; possibly from Archytas, who, we are told, was the first to reduce the science of mechanics to methodical order; * and who by the testimony of his countrymen was gifted with extraordinary talents, although none of his works have come down to us. The other principles and maxims of Aristotle's mechanical philosophy, which we shall have occasion to cite, are scattered through his books on *Mechanics*, on the *Heavens*, and in his *Physical Lectures*, and will therefore follow rather unconnectedly, though we have endeavoured to arrange them with as much regularity as possible.

After defining a body to be that which is divisible in every direction, Aristotle proceeds to inquire how it happens that a body has only the three dimensions of length, breadth, and thickness; and seems to think he has given a reason in saying that, when we speak of two things, we do not say "all," but "both," and three is the first number of which we say "all."† When he comes to speak of motion, he says, "If motion is not understood, we cannot but remain ignorant of Nature. Motion appears to be of the nature of continuous quantities, and in continuous quantity infinity first makes its appearance; so as to furnish some with a definition who say that con-

* De vi Percussionis, Bononiz, 1667.

† Mec. Analyt.

‡ Mechanica.

* Diog. Laert. In vit. Archyt.

† De Cælo, lib. i. c. 1.

tinuous quantity is that which is infinitely divisible.—Moreover, unless there be time, space, and a vacuum, it is impossible that there should be motion*.”—Few propositions of Aristotle’s physical philosophy are more notorious than his assertion that nature abhors a vacuum, on which account this last passage is the more remarkable, as he certainly did not go so far as to deny the existence of motion, and therefore asserts here the necessity of that of which he afterwards attempts to show the absurdity.—“Motion is the energy of what exists in power so far forth as so existing. It is that act of a moveable which belongs to its power of moving.”† After struggling through such passages as the preceding we come at last to a resting-place.—“It is difficult to understand what motion is.”—When the same question was once proposed to another Greek philosopher, he walked away, saying, “I cannot tell you, but I will show you;” an answer intrinsically worth more than all the subtleties of Aristotle, who was not humble-minded enough to discover that he was tasking his genius beyond the limits marked out for human comprehension.

He labours in the same manner and with the same success to vary the idea of space. He begins the next book with declaring, that “those who say there is a vacuum assert the existence of space; for a vacuum is space, in which there is no substance;” and after a long and tedious reasoning concludes that, “not only what space is, but also whether there be such a thing, cannot but be doubted.”‡ Of time he is content to say merely, that “it is clear that time is not motion, but that without motion there would be no time;”§ and there is perhaps little fault to be found with this remark, understanding motion in

the general sense in which Aristotle here applies it, of every description of change.

Proceeding after these remarks on the nature of motion in general to the motion of bodies, we are told that “all local motion is either straight, circular, or compounded of these two; for these two are the only simple sorts of motion. Bodies are divided into simple and concrete; simple bodies are those which have naturally a principle of motion, as fire and earth, and their kinds. By simple motion is meant the motion of a simple body.”* By these expressions Aristotle did not mean that a simple body cannot have what he calls a compound motion, but in that case he called the motion violent or unnatural; this division of motion into natural and violent runs through the whole of the mechanical philosophy founded upon his principles. “Circular motion is the only one which can be endless;”† the reason of which is given in another place: for “that cannot be doing, which cannot be done; and therefore it cannot be that a body should be moving towards a point (i. e. the end of an infinite straight line) whither no motion is sufficient to bring it.”‡ Bacon seems to have had these passages in view when he indulged in the reflections which we have quoted in page 14. “There are four kinds of motion of one thing by another: Drawing, Pushing, Carrying, Rolling. Of these, Carrying and Rolling may be referred to Drawing and Pushing.§—The prime mover and the thing moved are always in contact.”

The principle of the composition of motions is stated very plainly: “when a moveable is urged in two directions with motions bearing any ratio to each other, it moves necessarily in a straight line, which is the diameter of the figure formed by drawing the two lines of direction in that ratio;”|| and adds, in a singularly curious passage, “but when it is urged for any time with two motions which have an indefinitely small ratio one to another, the motion cannot be straight, so that a body describes a curve, when it is urged by two motions bearing an indefinitely small ratio one to another, and lasting an indefinitely small time.”¶

* Phys. lib. i. c. 3.

† Lib. iii. c. 2. The Aristotelians distinguished between things as existing in act or energy (*ενεργεια*) and things in capacity or power (*δυναμις*). For the advantage of those who may think the distinction worth attending to, we give an illustration of Aristotle’s meaning, from a very acute and learned commentator:—“It (motion) is something more than dead capacity; something less than perfect actuality; capacity roused, and striving to quit its latent character; not the capable brass, nor yet the actual statue, but the capacity in energy; that is to say, the brass in fusion while it is becoming the statue and is not yet become.”—“The bow moves not because it may be bent, nor because it is bent; but the motion lies between; lies in an imperfect and obscure union of the two together; is the actuality (if I may so say) even of capacity itself: imperfect and obscure, because such is capacity to which it belongs.”—Harris, Philosophical Arrangements.

‡ Lib. iv. c. 1.

§ Lib. iv. c. 11.

* De Cælo, lib. i. c. 2.

† Phys. lib. viii. c. 8.

‡ De Cælo, lib. i. c. 6.

§ Phys. lib. vii. c. 2.

|| Mechanica.

¶ Εαν δε εν μηδενι λογω φερεται δυο φορες

He seemed on the point of discovering some of the real laws of motion, when he was led to ask—"Why are bodies in motion more easily moved than those which are at rest?—And why does the motion cease of things cast into the air? Is it that the force has ceased which sent them forth, or is there a struggle against the motion, or is it through the disposition to fall, does it become stronger than the projectile force, or is it foolish to entertain doubts on this question, when the body has quitted the principle of its motion?" A commentator at the close of the sixteenth century says on this passage: "They fall because every thing recurs to its nature; for if you throw a stone a thousand times into the air, it will never accustom itself to move upwards." Perhaps we shall now find it difficult not to smile at the idea we may form of this luckless experimentalist, teaching stones to fly; yet it may be useful to remember that it is only because we have already collected an opinion from the results of a vast number of observations in the daily experience of life, that our ridicule would not be altogether misplaced, and that we are totally unable to determine by any kind of reasoning, unaccompanied by experiment, whether a stone thrown into the air would fall again to the earth, or move for ever upwards, or in any other conceivable manner and direction.

The opinion which Aristotle held, that motion must be caused by something in contact with the body moved, led him to his famous theory that falling bodies are accelerated by the air through which they pass. We will show how it was attempted to explain this process when we come to speak of more modern authors. He classed natural bodies into heavy and light, remarking at the same time that it is clear that "there are some bodies possessing neither gravity nor levity*." By light bodies he understood those which have a natural tendency to move from the earth, observing that "that which is lighter is not always light†." He maintained that the

heavenly bodies were altogether devoid of gravity; and we have already had occasion to mention his assertion, that a large body falls faster than a small one in proportion to its weight*. With this opinion may be classed another great mistake, in maintaining that the same bodies fall through different mediums, as air or water, with velocities reciprocally proportional to their densities. By a singular inversion of experimental science, Cardan, relying on this assertion, proposed in the sixteenth century to determine the densities of air and water by observing the different times taken by a stone in falling through them†. Galileo inquired afterwards why the experiment should not be made with a cork, which pertinent question put an end to the theory.

There are curious traces still preserved in the poem of Lucretius of a mechanical philosophy, of which the credit is in general given to Democritus, where many principles are inculcated strongly at variance with Aristotle's notions. We find absolute levity denied, and not only the assertion that in a vacuum all things would fall, but that they would fall with the same velocity; and the inequalities which we observe are attributed to the right cause, the impediment of the air, although the error remains of believing the velocity of bodies falling through the air to be proportional to their weight‡. Such specimens of this earlier philosophy

* Phys., lib. iv. c. 8. † De Proport. Basileæ, 1570.

‡ "Nunc locus est, ut opinor, in his illud quoque rebus

Confirmare tibi, nullam rem posse suâ vi Corpoream sursum ferri, sursumque meare.—Nec quom subsiliunt ignes ad tecta domorum, Et celeri flammâ degustant tigna trabeisque Sponte suâ facere id sine vi subicente putandum est. —Nonne vides etiam quantâ vi tigna trabeisque Respuat humor aquæ? Nam quod magi mersimus altum

Directâ et magnâ vi multi pressimus ægre:—Tam cupide sursum revomit magis atque remittit Plus ut parte foras emergant, exsiliantque: —Nec tamen hæc, quantum sit in sedubitamus, opinor, Quin vacuum per inane deorsum cuncta ferantur, Sic igitur debent flammæ quoque posse per auras Aeris expressæ sursum subsidere, quamquam Pondera quantum in se est deorsum deducere pugnent.

—Quod si forte aliquis credit Graviora potesse Corpora, quo citius rectum per Inane ferantur,

—Avius æ verâ longe ratione recedit.

Nam per Aquas quæcunque cadunt atque Aera deorsum

Hæc pro ponderibus casus celerare necesse 'st Propterea quia corpus Aquæ, naturaque tenuis Aeris haud possunt æque rem quamque morari: Sed citius cedunt Gravioribus exsuperata.

At contra nulli de nullâ parte, neque ullo Tempore Inane potest Vacuum subsistere reii

Quin, suâ quod natura petit, considere pergat: Omnia quæ propter debent per Inane quietum.

Æque ponderibus non æquis concita ferri."

De Rerum Natura, lib. ii, v. 184—239.

κατα μηδὲνα χρόνον, ἀδυνατον εὐθὺς εἶναι τὴν ὁρὰν. Εὰν γὰρ τίνα λόγον ἐν χροῶν τινὶ αὐτὸν ἀναγκὴ τὸν χρόνον εὐθὺς εἶναι φέροιεν διὰ ἀπείρημωνα, ὥστε περιφύρει γίνεσθαι δύο φερόμενα φέρας ἐν μηδενὶ λόγῳ μηδὲνα χρόνον.—i. c.

$\frac{ds}{dt}$

* De Cælo, lib. i. c. 3.

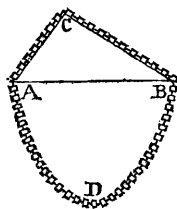
† Lib. iv. c. 2

may well indispose us towards Aristotle, who was as successful in the science of motion as he was in astronomy in suppressing the knowledge of a theory so much sounder than that which he imposed so long upon the credulity of his blinded admirers.

An agreeable contrast to Aristotle's mystical sayings and fruitless syllogisms is presented in Archimedes' book on Equilibrium, in which he demonstrates very satisfactorily, though with greater eumbrousness of apparatus than is now thought necessary, the principal properties of the lever. This and the Treatise on the Equilibrium of Floating Bodies are the only mechanical works which have reached us of this writer, who was by common consent one of the most accomplished mathematicians of antiquity. Ptolemy the astronomer wrote also a Treatise on Mechanics, now lost, which probably contained much that would be interesting in the history of mechanics; for Pappus says, in the Preface to the Eighth Book of his Mathematical Collections: "There is no occasion for me to explain what is meant by a heavy, and what by a light body, and why bodies are carried up and down, and in what sense these very words 'up' and 'down' are to be taken, and by what limits they are bounded; for all this is declared in Ptolemy's Mechanics."* This book of Ptolemy's appears to have been also known by Eutocius, a commentator of Archimedes, who lived about the end of the fifth century of our era; he intimates that the doctrines contained in it are grounded upon Aristotle's; if so, its loss is less to be lamented. Pappus's own book deserves attention for the enumeration which he makes of the mechanical powers, namely, the wheel and axle, the lever, pulleys, the wedge and the screw. He gives the credit to Hero and Philo of having shown, in works which have not reached us, that the theory of all these machines is the same. In Pappus we also find the first attempt to discover the force necessary to support a given weight on an inclined plane. This in fact is involved in the theory of the screw; and the same vicious reasoning which Pappus employs on this occasion was probably found in those treatises which he quotes with so much approbation. Numerous as are the faults of his pretended demon-

stration, it was received undoubtingly for a long period.

The credit of first giving the true theory of equilibrium on the inclined plane is usually ascribed to Stevin, although, as we shall presently show, with very little reason. Stevin supposed a chain to be placed over two inclined planes, and to hang down in the manner represented in the figure. He then urged that the chain would be in equilibrium; for otherwise, it would incessantly continue in motion, if there were any cause why it should begin to move. This being conceded, he remarks further, that the parts A D and B D are also in equilibrium, being exactly similar to each



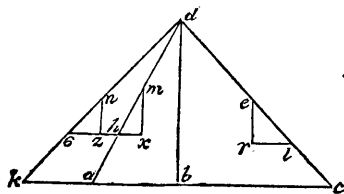
other; and therefore if they are taken away, the remaining parts A C and B C will also be in equilibrium. The weights of these parts are proportional to the lengths A C and B C; and hence Stevin concluded that two

weights would balance on two inclined planes, which are to each other as the lengths of the planes included between the same parallels to the horizon.* This conclusion is the correct one, and there is certainly great ingenuity in this contrivance to facilitate the demonstration; it must not however be mistaken for an *a priori* proof, as it sometimes seems to have been: we should remember that the experiments which led to the principle of virtual velocities are also necessary to show the absurdity of supposing a perpetual motion, which is made the foundation of this theorem. That principle had been applied directly to determine the same proportion in a work written long before, where it has remained singularly concealed from the notice of most who have written on this subject. The book bears the name of Jordanus, who lived at Namur in the thirteenth century; but Commandine, who refers to it in his Commentary on Pappus, considers it as the work of an earlier period. The author takes the principle of virtual velocities for the groundwork of his explanations, both of the lever and inclined plane; the latter will not occupy much space, and in an historical point of view is too curious to be omitted.

* Math. Coll. Pisani, 1662.

* Œuvres Mathématiques, Leyde, 1634.

"*Quest. 10.*—If two weights descend by paths of different obliquities, and the proportion be the same of the weights and the inclinations taken in the same order, they will have the same descending force. By the inclinations, I do not mean the angles, but the paths up to the point in which both meet the same perpendicular.* Let, therefore, e be the weight upon dc , and h upon da , and let e be to h as dc to da . I say these weights, in this situation, are equally effective. Take dk equally inclined with dc , and upon it a weight equal to e , which call 6 . If possible let e descend to l , so as to raise h to m , and



take $6n$ equal to hm or el , and draw the horizontal and perpendicular lines as in the figure.

Then $n z : n 6 :: d b : d k$

and $m h : m x :: d a : d b$

therefore $n z : m x :: d a : d k :: h : 6$, and therefore since er is not able to raise 6 to n , neither will it be able to raise h to m ; therefore they will remain as they are."† The passage in Italics tacitly assumes the principle in question. Tartalea, who edited Jordanius's book in 1565, has copied this theorem *verbatim* into one of his own treatises, and from that time it appears to have attracted no further attention. The rest of the book is of an inferior description. We find Aristotle's doctrine repeated, that the velocity of a falling body is proportional to its weight; that the weight of a heavy body changes with its form; and other similar opinions. The manner in which falling bodies are accelerated by the air is given in detail. "By its first motion the heavy body will drag after it what is behind, and move what is just below it; and these when put in motion move what is next to them, so that by being set in motion they less impede the falling body. In

this manner it has the effect of being heavier, and impels still more those which give way before it, until at last they are no longer impelled, but begin to drag. And thus it happens that its gravity is increased by their attraction, and their motion by its gravity, whence we see that its velocity is continually multiplied."

In this short review of the state of mechanical science before Galileo, the name of Guido Ubaldi ought not to be omitted, although his works contain little or nothing original. We have already mentioned Benedetti as having successfully attacked some of Aristotle's statical doctrines, but it is to be noticed that the laws of motion were little if at all examined by any of these writers. There are a few theorems connected with this latter subject in Cardan's extraordinary book "On Proportions," but for the most part false and contradictory. In the seventy-first proposition of his fifth book, he examines the force of the screw in supporting a given weight, and determines it accurately on the principle of virtual velocities; namely, that the power applied at the end of the horizontal lever must make a complete circuit at that distance from the centre, whilst the weight rises through the perpendicular height of the thread. The very next proposition in the same page is to find the same relation between the power and weight on an inclined plane; and although the identity of principle in these two mechanical aids was well known, yet Cardan declares the necessary sustaining force to vary as the angle of inclination of the plane, for no better reason than that such an expression will properly represent it at the two limiting angles of inclination, since the force is nothing when the plane is horizontal, and equal to the weight when perpendicular. This again shows how cautious we should be in attributing the full knowledge of general principles to these early writers, on account of occasional indications of their having employed them.

CHAPTER XVII.

Galileo's theory of Motion—Extracts from the Dialogues.

DURING Galileo's residence at Sienna, when his recent persecution had rendered astronomy an ungrateful, and indeed an unsafe occupation for his ever active mind, he returned with increased pleasure to the favourite employment of

* This is not a literal translation, but by what follows, is evidently the Author's meaning. His words are, "Proportionem igitur declinationum dico non angulorum, sed linearum usque ad æquidistantem resecationem in quâ æqualiter sumunt de directo."

† Opusculum De Ponderositate, Venetiis, 1565.

his earlier years, an inquiry into the laws and phenomena of motion. His manuscript treatises on motion, written about 1590, which are mentioned by Venturi to be in the Ducal library at Florence, seem, from the published titles of the chapters, to consist principally of objections to the theory of Aristotle; a few only appear to enter on a new field of speculation. The 11th, 13th, and 17th chapters relate to the motion of bodies on variously inclined planes, and of projectiles. The title of the 14th implies a new theory of accelerated motion, and the assertion in that of the 16th, that a body falling naturally for however great a time would never acquire more than an assignable degree of velocity, shows that at this early period Galileo had formed just and accurate notions of the action of a resisting medium. It is hazardous to conjecture how much he might have then acquired of what we should now call more elementary knowledge; a safer course will be to trace his progress through existing documents in their chronological order. In 1602 we find Galileo apologizing in a letter addressed to his early patron the Marchese Guido Ubaldi, for pressing again upon his attention the isochronism of the pendulum, which Ubaldi had rejected as false and impossible. It may not be superfluous to observe that Galileo's results are not quite accurate, for there is a perceptible increase in the time occupied by the oscillations in larger arcs; it is therefore probable that he was induced to speak so confidently of their perfect equality, from attributing the increase of time which he could not avoid remarking to the increased resistance of the air during the larger vibrations. The analytical methods then known would not permit him to discover the curious fact, that the time of a total vibration is not sensibly altered by this cause, except so far as it diminishes the extent of the swing, and thus in fact, (paradoxical as it may sound) renders each oscillation successively more rapid, though in a very small degree. He does indeed make the same remark, that the resistance of the air will not affect the time of the oscillation, but that assertion was a consequence of his erroneous belief that the time of vibration in all arcs is the same. Had he been aware of the variation, there is no reason to think that he could have perceived that this result is not affected by it. In this letter is the first mention

of the theorem, that the times of fall down all the chords drawn from the lowest point of a circle are equal; and another, from which Galileo afterwards deduced the curious result, that it takes less time to fall down the curve than down the chord, notwithstanding the latter is the direct and shortest course. In conclusion he says, "Up to this point I can go without exceeding the limits of mechanics, but I have not yet been able to demonstrate that all arcs are passed in the same time, which is what I am seeking." In 1604 he addressed the following letter to Sarpi, suggesting the false theory sometimes called Baliani's, who took it from Galileo.

"Returning to the subject of motion, in which I was entirely without a fixed principle, from which to deduce the phenomena I have observed, I have hit upon a proposition, which seems natural and likely enough; and if I take it for granted, I can show that the spaces passed in natural motion are in the double proportion of the times, and consequently that the spaces passed in equal times are as the odd numbers beginning from unity, and the rest. The principle is this, that the swiftness of the moveable increases in the proportion of its distance from the point whence it began to move; as for instance,—if a heavy

body drop from A towards D, by the line A B C D, I suppose the degree of velocity which it has at B to bear to the velocity at C the ratio of A B to A C. I shall be very glad if your Reverence will consider this, and tell me your opinion of it. If we admit this principle, not only, as I have said, shall we demonstrate the other conclusions, but we have it in our power to show that

a body falling naturally, and another projected upwards, pass through the same degrees of velocity. For if the projectile be cast up from D to A, it is clear that at D it has force enough to reach A, and no farther; and when it has reached C and B, it is equally clear that it is still joined to a degree of force capable of carrying it to A: thus it is manifest that the forces at D, C and B decrease in the proportion of A B, A C, and A D; so that if, in falling, the degrees of velocity observe the same proportion, that is true which I have hitherto maintained and believed."

We have no means of knowing how early Galileo discovered the fallacy of this reasoning. In his *Dialogues on Motion*, which contain the correct theory, he has put this erroneous supposition in the mouth of Sagredo, on which Salviati remarks, "Your discourse has so much likelihood in it, that our author himself did not deny to me when I proposed it to him, that he also had been for some time in the same mistake. But that which I afterwards extremely wondered at, was to see discovered in four plain words, not only the falsity, but the impossibility of a supposition carrying with it so much of seeming truth, that although I proposed it to many, I never met with any one but did freely admit it to be so; and yet it is as false and impossible as that motion is made in an instant: for if the velocities are as the spaces passed, those spaces will be passed in equal times, and consequently all motion must be instantaneous." The following manner of putting this reasoning will perhaps make the conclusion clearer. The velocity at any point is the space that would be passed in the next moment of time, if the motion be supposed to continue the same as at that point. At the beginning of the time, when the body is at rest, the motion is none; and therefore, on this theory, the space passed in the next moment is none, and thus it will be seen that the body cannot begin to move according to the supposed law.

A curious fact, noticed by Guido Grandi in his commentary on Galileo's *Dialogues on Motion*, is that this false law of acceleration is precisely that which would make a circular arc the shortest line of descent between two given points; and although in general Galileo only declared that the fall down the arc is made in less time than down the chord (in which he is quite correct), yet in some places he seems to assert that the circular arc is absolutely the shortest line of descent, which is not true. It has been thought possible that the law, which on reflection he perceived to be impossible, might have originally recommended itself to him from his perception that it satisfied his prejudice in this respect.

John Bernoulli, one of the first mathematicians in Europe at the beginning of the last century, has given us a proof that such a reason might impose even on a strong understanding, in the following argument urged by him in favour

of Galileo's second and correct theory, that the spaces vary as the squares of the times. He had been investigating the curve of swiftest descent, and found it to be a cycloid, the same curve in which Huyghens had already proved that all oscillations are made in accurately equal times. "I think it," says he, "worthy of remark that this identity only occurs on Galileo's supposition, so that this alone might lead us to presume it to be the real law of nature. For nature, which always does everything in the very simplest manner, thus makes one line do double work, whereas on any other supposition, we must have had two lines, one for equal oscillations, the other for the shortest descent."*

Venturi mentions a letter addressed to Galileo in May 1609 by Luca Valerio, thanking him for his experiments on the descent of bodies on inclined planes. His method of making these experiments is detailed in the *Dialogues on Motion*:—"In a rule, or rather plank of wood, about twelve yards long, half a yard broad one way, and three inches the other, we made upon the narrow side or edge a groove of little more than an inch wide: we cut it very straight, and, to make it very smooth and sleek, we glued upon it a piece of vellum, polished and smoothed as exactly as possible, and in that we let fall a very hard, round, and smooth brass ball, raising one of the ends of the plank a yard or two at pleasure above the horizontal plane. We observed, in the manner that I shall tell you presently, the time which it spent in running down, and repeated the same observation again and again to assure ourselves of the time, in which we never found any difference, no, not so much as the tenth part of one beat of the pulse. Having made and settled this experiment, we let the same ball descend through a fourth part only of the length of the groove, and found the measured time to be exactly half the former. Continuing our experiments with other portions of the length, comparing the fall through the whole with the fall through half, two-thirds, three-fourths, in short, with the fall through any part, we found by many hundred experiments that the spaces passed over were as the squares of the times, and that this was the case in all inclinations of the plank; during which, we also re-

* Joh. Bernoulli, *Opera Omnia*, Lausanne, 1744. tom. i. p. 192.

marked that the times of descent, on different inclinations, observe accurately the proportion assigned to them farther on, and demonstrated by our author. As to the estimation of the time, we hung up a great bucket full of water, which by a very small hole pierced in the bottom squirted out a fine thread of water, which we caught in a small glass during the whole time of the different descents: then weighing from time to time, in an exact pair of scales, the quantity of water caught in this way, the differences and proportions of their weights gave the differences and proportions of the times; and this with such exactness that, as I said before, although the experiments were repeated again and again, they never differed in any degree worth noticing." In order to get rid of the friction, Galileo afterwards substituted experiments with the pendulum; but with all his care he erred very widely in his determination of the space through which a body would fall in 1", if the resistance of the air and all other impediments were removed. He fixed it at 4 *braccia*: Mersenne has engraved the length of the '*braccia*' used by Galileo, in his "*Harmonie Universelle*," from which it appears to be about $23\frac{1}{2}$ English inches, so that Galileo's result is rather less than eight feet. Mersenne's own result from direct observation was thirteen feet: he also made experiments in St. Peter's at Rome, with a pendulum 325 feet long, the vibrations of which were made in 10"; from this the fall in 1" might have been deduced rather more than sixteen feet, which is very close to the truth.

From another letter also written in the early part of 1609, we learn that Galileo was then busied with examining the strength and resistance "of beams of different sizes and forms, and how much weaker they are in the middle than at the ends, and how much greater weight they can support laid along their whole length, than if sustained on a single point, and of what form they should be so as to be equally strong throughout." He was also speculating on the motion of projectiles, and had satisfied himself that their motion in a vertical direction is unaffected by their horizontal velocity; a conclusion which, combined with his other experiments, led him afterwards to determine the path of a projectile in a non-resisting medium to be parabolical.

Tartalea is supposed to have been the

first to remark that no bullet moves in a horizontal line; but his theory beyond this point was very erroneous, for he supposed the bullet's path through the air to be made up of an ascending and descending straight line, connected in the middle by a circular arc.

Thomas Digges, in his treatise on the *Newe Science of Great Artillerie*, came much nearer the truth; for he remarked*, that "The bullet violentlye throwne out of the peece by the furie of the powder hath two motions: the one violent, which endeuoreth to carry the bullet right out in his line diagonall, according to the direction of the peece's axis, from whence the violent motion proceedeth; the other naturall in the bullet itselfe, which endeuoreth still to carrye the same directlye downeward by a right line perpendiculare to the horizon, and which dooth though insensiblye euen from the beginning by little and little drawe it from that direct and diagonall course." And a little farther he observes that "These middle curve arkes of the bullet's circuite, compounded of the violent and naturall motions of the bullet, albeit they be indeed mere hellicall, yet have they a very great resemblance of the Arkes Conical. And in randons above 45° they doe much resemble the Hyperbole, and in all vnder the Ellepsis. But exactlye they neuer accorde, being indeed Spirall mixte and Helicall."

Perhaps Digges deserves no greater credit from this latter passage than the praise of a sharp and accurate eye, for he does not appear to have founded this determination of the form of the curve on any theory of the direct fall of bodies; but Galileo's arrival at the same result was preceded, as we have seen, by a careful examination of the simplest phenomena into which this compound motion may be resolved. But it is time to proceed to the analysis of his "*Dialogues on Motion*," these preliminary remarks on their subject matter having been merely intended to show how long before their publication Galileo was in possession of the principal theories contained in them.

Descartes, in one of his letters to Mersenne, insinuates that Galileo had taken many things in these *Dialogues* from him: the two which he especially instances are the isochronism of the pendulum, and the law of the spaces varying

* *Pantometria*, 1591.

as the squares of the times.* Descartes was born in 1596: we have shown that Galileo observed the isochronism of the pendulum in 1583, and knew the law of the spaces in 1604, although he was then attempting to deduce it from an erroneous principle. As Descartes on more than one occasion has been made to usurp the credit due to Galileo, (in no instance more glaringly so than when he has been absurdly styled the forerunner of Newton,) it will not be misplaced to mention a few of his opinions on these subjects, recorded in his letters to Mersenne in the collection of his letters just cited:—"I am astonished at what you tell me of having found by experiment that bodies thrown up in the air take neither more nor less time to rise than to fall again; and you will excuse me if I say that I look upon the experiment as a very difficult one to make accurately. This proportion of increase according to the odd numbers 1, 3, 5, 7, &c., which is in Galileo, and which I think I wrote to you some time back, cannot be true, as I believe I intimated at the same time, unless we make two or three suppositions which are entirely false. One is Galileo's opinion, that motion increases gradually from the slowest," degree; and the other is, that the air makes no resistance." In a later letter to the same person he says, apparently with some uneasiness, "I have been revising my notes on Galileo, in which I have not said expressly, that falling bodies do not pass through every degree of slowness, but I said that this cannot be determined without knowing what weight is; *which comes to the same thing*. As to your example, I grant that it proves that every degree of velocity is infinitely divisible, but not that a falling body actually passes through all these divisions.—It is certain that a stone is not equally disposed to receive a new motion or increase of velocity, when it is already moving very quickly, and when it is moving slowly. But I believe that I am now able to determine in what proportion the velocity of a stone increases, not when falling in a vacuum, but in this substantial atmosphere.—However I have now got my mind full of other things, and I cannot amuse myself with hunting this out, *nor is it a matter of much utility*." He afterwards returns once more to the same subject:—"As to what Galileo says, that falling bodies pass through every degree of velocity, I

do not believe that it generally happens, but I allow it is not impossible that it may happen occasionally." After this the reader will know what value to attach to the following assertion by the same Descartes:—"I see nothing in Galileo's books to envy him, and hardly any thing which I would own as mine;" and then may judge how far Salusbury's blunt declaration is borne out, "Where or when did any one appear that durst enter the lists with our Galileus? save only one bold and unfortunate Frenchman, who yet no sooner came within the ring but he was hissed out again."*

The principal merit of Descartes must undoubtedly be derived from the great advances he made in what are generally termed Abstract or Pure Mathematics; nor was he slow to point out to Mersenne and his other friends the acknowledged inferiority of Galileo to himself in this respect. We have not sufficient proof that this difference would have existed if Galileo's attention had been equally directed to that object; the singular elegance of some of his geometrical constructions indicates great talent for this as well as for his own more favourite speculations. But he was far more profitably employed: geometry and pure mathematics already far outstripped any useful application of their results to physical science, and it was the business of Galileo's life to bring up the latter to the same level. He found abstract theorems already demonstrated in sufficient number for his purpose, nor was there occasion to task his genius in search of new methods of inquiry, till all was exhausted which could be learned from those already in use. The result of his labours was that in the age immediately succeeding Galileo, the study of nature was no longer in arrear of the abstract theories of number and measure; and when the genius of Newton pressed it forward to a still higher degree of perfection, it became necessary to discover at the same time more powerful instruments of investigation. This alternating process has been successfully continued to the present time; the analyst acts as the pioneer of the naturalist, so that the abstract researches, which at first have no value but in the eyes of those to whom an elegant formula, in its own beauty, is a source of pleasure as real and as refined as a painting or a statue, are often found to furnish the

* Lettres de Descartes. Paris, 1657.

* Math. Coll. vol. ii.

only means for penetrating into the most intricate and concealed phenomena of natural philosophy.

Descartes and Delambre agree in suspecting that Galileo preferred the dialogistic form for his treatises, because it afforded a ready opportunity for him to praise his own inventions: the reason which he himself gave is, the greater facility for introducing new matter and collateral inquiries, such as he seldom failed to add each time that he reperused his work. We shall select in the first place enough to show the extent of his knowledge on the principal subject, motion, and shall then allude as well as our limits will allow to the various other points incidentally brought forward.

The dialogues are between the same speakers as in the "System of the World;" and in the first Simplicio gives Aristotle's proof,* that motion in a vacuum is impossible, because according to him bodies move with velocities in the compound proportion of their weights and the rarities of the mediums through which they move. And since the density of a vacuum bears no assignable ratio to that of any medium in which motion has been observed, any body which should employ time in moving through the latter, would pass through the same distance in a vacuum instantaneously, which is impossible. Salviati replies by denying the axioms, and asserts that if a cannon ball weighing 200 lbs., and a musket ball weighing half a pound, be dropped together from a tower 200 yards high, the former will not anticipate the latter by so much as a foot; "and I would not have you do as some are wont, who fasten upon some saying of mine that may want a hair's breadth of the truth, and under this hair they seek to hide another man's blunder as big as a cable. Aristotle says that an iron ball weighing 100 lbs. will fall from the height of 100 yards while a weight of one pound falls but one yard: I say they will reach the ground together. They find the bigger to anticipate the less by two inches, and under these two inches they seek to hide Aristotle's 99 yards." In the course of his reply to this argument Salviati formally announces the principle which is the foundation of the whole of Galileo's theory of motion, and which must therefore be quoted in his own words:—"A heavy

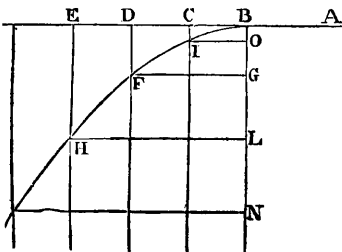
body has by nature an intrinsic principle of moving towards the common centre of heavy things; that is to say, to the centre of our terrestrial globe, with a motion continually accelerated in such manner that in equal times there are always equal additions of velocity. This is to be understood as holding true only when all accidental and external impediments are removed, amongst which is one that we cannot obviate, namely, the resistance of the medium. This opposes itself, less or more, accordingly as it is to open more slowly or hastily to make way for the moveable, which being by its own nature, as I have said, continually accelerated, consequently encounters a continually increasing resistance in the medium, until at last the velocity reaches that degree, and the resistance that power, that they balance each other; all further acceleration is prevented, and the moveable continues ever after with an uniform and equable motion." That such a limiting velocity is not greater than some which may be exhibited may be proved as Galileo suggested by firing a bullet upwards, which will in its descent strike the ground with less force than it would have done if immediately from the mouth of the gun; for he argued that the degree of velocity which the air's resistance is capable of diminishing must be greater than that which could ever be reached by a body falling naturally from rest. "I do not think the present occasion a fit one for examining the cause of this acceleration of natural motion, on which the opinions of philosophers are much divided; some referring it to the approach towards the centre, some to the continual diminution of that part of the medium remaining to be divided, some to a certain extrusion of the ambient medium, which uniting again behind the moveable presses and hurries it forwards. All these fancies, with others of the like sort, we might spend our time in examining, and with little to gain by resolving them. It is enough for our author at present that we understand his object to be the investigation and examination of some phenomena of a motion so accelerated, (no matter what may be the cause,) that the momenta of velocity, from the beginning to move from rest, increase in the simple proportion in which the time increases, which is as much as to say, that in equal times are equal additions of velocity. And if it shall turn out that the phenomena de-

* Phys. Lib. iv. c. 8.

monstrated on this supposition are verified in the motion of falling and naturally accelerated weights, we may thence conclude that the assumed definition does describe the motion of heavy bodies, and that it is true that their acceleration varies in the ratio of the time of motion."

When Galileo first published these Dialogues on Motion, he was obliged to rest his demonstrations upon another principle besides, namely, that the velocity acquired in falling down all inclined planes of the same perpendicular height is the same. As this result was derived directly from experiment, and from that only, his theory was so far imperfect till he could show its consistency with the above supposed law of acceleration. When Viviani was studying with Galileo, he expressed his dissatisfaction at this chasm in the reasoning; the consequence of which was, that Galileo, as he lay the same night, sleepless through indisposition, discovered the proof which he had long sought in vain, and introduced it into the subsequent editions. The third dialogue is principally taken up with theorems on the direct fall of bodies, their times of descent down differently inclined planes, which in planes of the same height he determined to be as the lengths, and with other inquiries connected with the same subject, such as the straight lines of shortest descent under different data, &c.

The fourth dialogue is appropriated to projectile motion, determined upon the principle that the horizontal motion will continue the same as if there were no vertical motion, and the vertical motion as if there were no horizontal motion. "Let A B represent a horizontal



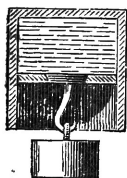
line or plane placed on high, on which let a body be carried with an equable motion from A towards B, and the support of the plane being taken away at B, let the natural motion downwards due to the body's weight come upon it

in the direction of the perpendicular B N. Moreover let the straight line B E drawn in the direction A B be taken to represent the flow, or measure, of the time, on which let any number of equal parts B C, C D, D E, &c. be marked at pleasure, and from the points C, D, E, let lines be drawn parallel to B N; in the first of these let any part C I be taken, and let D F be taken four times as great as C I, E H nine times as great, and so on, proportionally to the squares of the lines B C, B D, B E, &c., or, as we say, in the double proportion of these lines. Now if we suppose that whilst by its equable horizontal motion the body moves from B to C, it also descends by its weight through C I, at the end of the time denoted by B C it will be at I. Moreover in the time B D, double of B C, it will have fallen four times as far, for in the first part of the Treatise it has been shewn that the spaces fallen through by a heavy body vary as the squares of the times. Similarly at the end of the time B E, or three times B C, it will have fallen through E H, and will be at H. And it is plain that the points I, F, H, are in the same parabolical line B I F H. The same demonstration will apply if we take any number of equal particles of time of whatever duration."

The curve called here a Parabola by Galileo, is one of those which results from cutting straight through a Cone, and therefore is called also one of the Conic Sections, the curious properties of which curves had drawn the attention of geometers long before Galileo thus began to point out their intimate connexion with the phenomena of motion. After the proposition we have just extracted, he proceeds to anticipate some objections to the theory, and explains that the course of a projectile will not be accurately a parabola for two reasons; partly on account of the resistance of the air, and partly because a horizontal line, or one equidistant from the earth's centre, is not straight, but circular. The latter cause of difference will, however, as he says, be insensible in all such experiments as we are able to make. The rest of the Dialogue is taken up with different constructions for determining the circumstances of the motion of projectiles, as their range, greatest height, &c.; and it is proved that, with a given force of projection, the range will be greatest when a ball is projected at an elevation

of 45° , the ranges of all angles equally inclined above and below 45° corresponding exactly to each other.

One of the most interesting subjects discussed in these dialogues is the famous notion of Nature's horror of a vacuum or empty space, which the old school of philosophy considered as impossible to be obtained. Galileo's notions of it were very different; for although he still unadvisedly adhered to the old phrase to denote the resistance experienced in endeavouring to separate two smooth surfaces, he was so far from looking upon a vacuum as an impossibility, that he has described an apparatus by which he endeavoured to measure the force necessary to produce one.



This consisted of a cylinder, into which is tightly fitted a piston; through the centre of the piston passes a rod with a conical valve, which, when drawn down, shuts the aperture closely, supporting a basket. The space between the piston and cylinder being filled full of water poured in through the aperture, the valve is closed, the vessel reversed, and weights are added till the piston is drawn forcibly downwards. Galileo concluded that the weight of the piston, rod, and added weights, would be the measure of the force of resistance to the vacuum which he supposed would take place between the piston and lower surface of the water. The defects in this apparatus for the purpose intended are of no consequence, so far as regards the present argument, and it is perhaps needless to observe that he was mistaken in supposing the water would not descend with the piston. This experiment occasions a remark from Sagredo, that he had observed that a lifting-pump would not work when the water in the cistern had sunk to the depth of thirty-five feet below the valve; that he thought the pump was injured, and sent for the maker of it, who assured him that no pump upon that construction would lift water from so great a depth. This story is sometimes told of Galileo, as if he had said sneeringly on this occasion that Nature's horror of a vacuum does not extend beyond thirty-five feet; but it is very plain that if he had made such an observation, it would have been seriously; and in fact by such a limitation he deprived the notion of the principal part of its absurdity. He evi-

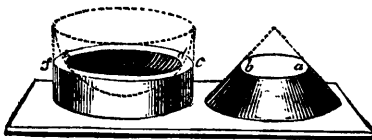
dently had adopted the common notion of suction, for he compares the column of water to a rod of metal suspended from its upper end, which may be lengthened till it breaks with its own weight. It is certainly very extraordinary that he failed to observe how simply these phenomena may be explained by a reference to the weight of the elastic atmosphere, which he was perfectly well acquainted with, and endeavoured by the following ingenious experiment to determine:—"Take a large glass flask with a bent neck, and round its mouth tie a leathern pipe with a valve in it, through which water may be forced into the flask with a syringe without suffering any air to escape, so that it will be compressed within the bottle. It will be found difficult to force in more than about three-fourths of what the flask will hold, which must be carefully weighed. The valve must then be opened, and just so much air will rush out as would in its natural density occupy the space now filled by the water. Weigh the vessel again; the difference will show the weight of that quantity of air*." By these means, which the modern experimentalist will see were scarcely capable of much accuracy, Galileo found that air was four hundred times lighter than water, instead of ten times, which was the proportion fixed on by Aristotle. The real proportion is about 830 times.

The true theory of the rise of water in a lifting-pump is commonly dated from Torricelli's famous experiment with a column of mercury, in 1644, when he found that the greatest height at which it would stand is fourteen times less than the height at which water will stand, which is exactly the proportion of weight between water and mercury. The following curious letter from Baliani, in 1630, shows that the original merit of suggesting the real cause belongs to him, and renders it still more unaccountable that Galileo, to whom it was addressed, should not at once have adopted the same view of the subject:—"I have believed that a vacuum may exist naturally ever since I knew that the air has sensible weight, and that you taught me in one of your letters how to find its weight exactly, though I have not yet succeeded with that experiment. From that moment I took up the notion

* It has been recently proposed to determine the density of high-pressure steam by a process analogous to this.

that it is not repugnant to the nature of things that there should be a vacuum, but merely that it is difficult to produce. To explain myself more clearly: if we allow that the air has weight, there is no difference between air and water except in degree. At the bottom of the sea the weight of the water above me compresses everything round my body, and it strikes me that the same thing must happen in the air, we being placed at the bottom of its immensity; we do not feel its weight, nor the compression round us, because our bodies are made capable of supporting it. But if we were in a vacuum, then the weight of the air above our heads would be felt. It would be felt very great, but not infinite, and therefore determinable, and it might be overcome by a force proportioned to it. In fact I estimate it to be such that, to make a vacuum, I believe we require a force greater than that of a column of water thirty feet high*."

This subject is introduced by some observations on the force of cohesion, Galileo seeming to be of opinion that, although it cannot be adequately accounted for by "the great and principal resistance to a vacuum, yet that perhaps a sufficient cause may be found by considering every body as composed of very minute particles, between every two of which is exerted a similar resistance." This remark serves to lead to a discussion on indivisibles and infinite quantities, of which we shall merely extract what Galileo gives as a curious paradox suggested in the course of it. He supposes a basin to be formed by scooping a hemisphere out of a cylinder, and a cone to be taken of the same depth and base as the hemisphere. It is easy to show, if the cone and scooped cylinder be both supposed to be cut by the same plane, parallel to



the one on which both stand, that the area of the ring CDEF thus discovered in the cylinder is equal to the area of the corresponding circular section AB of the cone, wherever the cutting plane is sup-

posed to be*. He then proceeds with these remarkable words:—"If we raise the plane higher and higher, one of these areas terminates in the circumference of a circle, and the other in a point, for such are the upper rim of the basin and the top of the cone. Now since in the diminution of the two areas they to the very last maintain their equality to one another, it is in my thoughts proper to say that the highest and ultimate terms† of such diminutions are equal, and not one infinitely bigger than the other. It seems therefore that the circumference of a large circle may be said to be equal to one single point. And why may not these be called equal if they be the last remainders and vestiges left by equal magnitudes‡?"

We think no one can refuse to admit the probability, that Newton may have found in such passages as these the first germ of the idea of his prime and ultimate ratios, which afterwards became in his hands an instrument of such power. As to the paradoxical result, Descartes undoubtedly has given the true answer to it in saying that it only proves that the line is not a greater area than the point is. Whilst on this subject, it may not be uninteresting to remark that something similar to the doctrine of fluxions seems to have been lying dormant in the minds of the mathematicians of Galileo's era, for Inchoffer illustrates his argument in the treatise we have already mentioned, that the Copernicans may deduce some true results from what he terms their absurd hypothesis, by observing, that mathematicians may deduce the truth that a line is length without breadth, from the false and physically impossible supposition that a point flows, and that a line is the fluxion of a point§.

A suggestion that perhaps fire dissolves bodies by insinuating itself between their minute particles, brings on the subject of the violent effects of heat and light; on which Sagredo inquires, whether we are to take for granted that the effect of light does or does not require time. Simplicio is ready with an answer, that the discharge of artillery proves the transmission of light to be

* Galileo also reasons in the same way on the equality of the solids standing on the cutting plane, but one is sufficient for our present purpose.

† Gli altissimi e ultimi termini.

‡ Le ultime reliquie e vestigie lasciate da grandezze eguali.

§ Punctum fluere, et lineam esse fluxum puncti, Tract. Syllept. Romæ, 1633.

instantaneous, to which Sagredo cautiously replies, that nothing can be gathered from that experiment except that light travels more swiftly than sound; nor can we draw any decisive conclusion from the rising of the sun. "Who can assure us that he is not in the horizon before his rays reach our sight?" Salviati then mentions an experiment by which he endeavoured to examine this question. Two observers are each to be furnished with a lantern: as soon as the first shades his light, the second is to discover his, and this is to be repeated at a short distance till the observers are perfect in the practice. The same thing is to be tried at the distance of several miles, and if the first observer perceive any delay between shading his own light and the appearance of his companion's, it is to be attributed to the time taken by the light in traversing twice the distance between them. He allows that he could discover no perceptible interval at the distance of a mile, at which he had tried the experiment, but recommends that with the help of a telescope it should be tried at much greater distances. Sir Kenelm Digby remarks on this passage: "It may be objected (if there be some observable tardity in the motion of light) that the sunne would never be truly in that place in which unto our eyes he appeareth to be; because that it being seene by means of the light which issueth from it, if that light required time to move in, the sunne (whose motion is so swift) would be removed from the place where the light left it, before it could be with us to give tidings of him. To this I answer, allowing peradventure that it may be so, who knoweth the contrary? Or what inconvenience would follow if it be admitted *?"

The principal thing remaining to be noticed is the application of the theory of the pendulum to musical concords and dissonances, which are explained, in the same manner as by Kepler in his "Harmonices Mundi," to result from the concurrence or opposition of vibrations in the air striking upon the drum of the ear. It is suggested that these vibrations may be made manifest by rubbing the finger round a glass set in a large vessel of water; "and if by pressure the note is suddenly made to rise to the octave above, every one of the

undulations which will be seen regularly spreading round the glass, will suddenly split into two, proving that the vibrations that occasion the octave are double those belonging to the simple note." Galileo then describes a method he discovered by accident of measuring the length of these waves more accurately than can be done in the agitated water. He was scraping a brass plate with an iron chisel, to take out some spots, and moving the tool rapidly upon the plate, he occasionally heard a hissing and whistling sound, very shrill and audible, and whenever this occurred, and then only, he observed the light dust on the plate to arrange itself in a long row of small parallel streaks equidistant from each other. In repeated experiments he produced different tones by scraping with greater or less velocity, and remarked that the streaks produced by the acute sounds stood closer together than those from the low notes. Among the sounds produced were two, which by comparison with a viol he ascertained to differ by an exact fifth; and measuring the spaces occupied by the streaks in both experiments, he found thirty of the one equal to forty-five of the other, which is exactly the known proportion of the lengths of strings of the same material which sound a fifth to each other*.

Salviati also remarks, that if the material be not the same, as for instance if it be required to sound an octave to a note on catgut, on a wire of the same length, the weight of the wire must be made four times as great, and so for other intervals. "The immediate cause of the forms of musical intervals is neither the length, the tension, nor the thickness, but the proportion of the numbers of the undulations of the air which strike upon the drum of the ear, and make it vibrate in the same intervals. Hence we may gather a plausible reason of the different sensations occasioned to us by different couples of sounds, of which we hear some with great pleasure, some with less, and call them accordingly concords, more or less perfect, whilst some excite in us great dissatisfaction, and are called discords. The disagreeable sensation belonging to the latter

* This beautiful experiment is more easily tried by drawing the bow of a violin across the edge of glass strewn with fine dry sand. Those who wish to see more on the subject may consult Chladni's 'Acoustique.'

* "Treatise of the Nature of Bodies. London, 1665."

probably arises from the disorderly manner in which the vibrations strike the drum of the ear; so that for instance a most cruel discord would be produced by sounding together two strings, of which the lengths are to each other as the side and diagonal of a square, which is the discord of the false fifth. On the contrary, agreeable consonances will result from those strings of which the numbers of vibrations made in the same time are commensurable, "to the end that the cartilage of the drum may not undergo the incessant torture of a double inflexion from the disagreeing percussions." Something similar may be exhibited to the eye by hanging up pendulums of different lengths: "if these be proportioned so that the times of their vibrations correspond with those of the musical concords, the eye will observe with pleasure their crossings and interweavings still recurring at appreciable intervals; but if the times of vibration be incommensurate, the eye will be wearied and worn out with following them."

The second dialogue is occupied entirely with an investigation of the strength of beams, a subject which does not appear to have been examined by any one before Galileo beyond Aristotle's remark, that long beams are weaker, because they are at once the weight, the lever, and the fulcrum; and it is in the development of this observation that the whole theory consists. The principle assumed by Galileo as the basis of his inquiries is, that the force of cohesion with which a beam resists a cross fracture in any section may all be considered as acting at the centre of gravity of the section, and that it breaks always at the lowest point: from this he deduced that the effect of the weight of a prismatic beam in overcoming the resistance of one end by which it is fastened to a wall, varies directly as the square of the length, and inversely as the side of the base. From this it immediately follows, that if for instance the bone of a large animal be three times as long as the corresponding one in a smaller beast, it must be nine times as thick to have the same strength, provided we suppose in both cases that the materials are of the same consistence. An elegant result which Galileo also deduced from this theory, is that the form of such a beam, to be equally strong in every part, should be that of a parabolical prism, the vertex of the parabola

being the farthest removed from the wall. As an easy mode of describing the parabolic curve for this purpose, he recommends tracing the line in which a heavy flexible string hangs. This curve is not an accurate parabola: it is now called a catenary; but it is plain from the description of it in the fourth dialogue, that Galileo was perfectly aware that this construction is only approximately true. In the same place he makes the remark, which to many is so paradoxical, that no force, however great, exerted in a horizontal direction, can stretch a heavy thread, however slender, into an accurately straight line.

The fifth and sixth dialogues were left unfinished, and annexed to the former ones by Viviani after Galileo's death: the fragment of the fifth, which is on the subject of Euclid's Definition of Ratio, was at first intended to have formed a part of the third, and followed the first proposition on equable motion: the sixth was intended to have embodied Galileo's researches on the nature and laws of Percussion, on which he was employed at the time of his death. Considering these solely as fragments, we shall not here make any extracts from them.

CHAPTER XVIII.

Correspondence on Longitudes.—Pendulum Clock.

IN the spring of 1636, having finished his Dialogues on Motion, Galileo resumed the plan of determining the longitude by means of Jupiter's satellites. Perhaps he suspected something of the private intrigue which thwarted his former expectations from the Spanish government, and this may have induced him on the present occasion to negotiate the matter without applying for Ferdinand's assistance and recommendation. Accordingly he addressed himself to Lorenz Real, who had been Governor General of the Dutch possessions in India, freely and unconditionally offering the use of his theory to the States General of Holland. Not long before, his opinion had been requested by the commissioners appointed at Paris to examine and report on the practicability of another method proposed by Morin,* which consisted in observing the distance of the moon from a known star. Morin was a French philosopher, prin-

* One of the Commissioners was the father of Blaise Pascal.

cipally known as an astrologer and zealous Anti-Copernican ; but his name deserves to be recorded as undoubtedly one of the first to recommend a method, which, under the name of a Lunar distance, is now in universal practice.

The monthly motion of the moon is so rapid, that her distance from a given star sensibly varies in a few minutes even to the unassisted eye ; and with the aid of the telescope, we can of course appreciate the change more accurately. Morin proposed that the distances of the moon from a number of fixed stars lying near her path in the heavens should be beforehand calculated and registered for every day in the year, at a certain hour, in the place from which the longitudes were to be reckoned, as for instance at Paris. Just as in the case of the eclipses of Jupiter's satellites, the observer, when he saw that the moon had arrived at the registered distance, would know the hour at Paris : he might also make allowance for intermediate distances. Observing at the same instant the hour on board his ship, the difference between the two would show his position in regard of longitude. In using this method as it is now practised, several modifications are to be attended to, without which it would be wholly useless, in consequence of the refraction of the atmosphere, and the proximity of the moon to the earth. Owing to the latter cause, if two spectators should at the same instant of time, but in different places, measure the distance of the moon in the East, from a star still more to the eastward, it would appear greater to the more easterly spectator than to the other observer, who as seen from the star would be standing more directly behind the moon. The mode of allowing for these alterations is taught by trigonometry and astronomy.

The success of this method depends altogether upon the exact knowledge which we now have of the moon's course, and till that knowledge was perfected it would have been found altogether illusory. Such in fact was the judgment which Galileo pronounced upon it. "As to Morin's book on the method of finding the longitude by means of the moon's motion, I say freely that I conceive this idea to be as accurate in theory, as fallacious and impossible in practice. I am sure that neither you nor any one of the other four gentlemen can doubt the possibility of finding the difference of longitude between two me-

ridians by means of the moon's motion, provided we are sure of the following requisites : First, an Ephemeris of the moon's motion exactly calculated for the first meridian from which the others are to be reckoned ; secondly, exact instruments, and convenient to handle, in taking the distance between the moon and a fixed star ; thirdly, great practical skill in the observer ; fourthly, not less accuracy in the scientific calculations, and astronomical computations ; fifthly, very perfect clocks to number the hours, or other means of knowing them exactly, &c. Supposing, I say, all these elements free from error, the longitude will be accurately found ; but I reckon it more easy and likely to err in all of these together, than to be practically right in one alone. Morin ought to require his judges to assign, at their pleasure, eight or ten moments of different nights during four or six months to come, and pledge himself to predict and assign by his calculations the distances of the moon at those determined instants from some star which would then be near her. If it is found that the distances assigned by him agree with those which the quadrant or sextant* will actually show, the judges would be satisfied of his success, or rather of the truth of the matter, and nothing would remain but to show that his operations were such as could be performed by men of moderate skill, and also practicable at sea as well as on land. I incline much to think that an experiment of this kind would do much towards abating the opinion and conceit which Morin has of himself, which appears to me so lofty, that I should consider myself the eighth sage, if I knew the half of what Morin presumes to know."

It is probable that Galileo was biased by a predilection for his own method, on which he had expended so much time and labour ; but the objections which he raises against Morin's proposal in the foregoing letter are no other than those to which at that period it was undoubtedly open. With regard to his own, he had already, in 1612, given a rough prediction of the course of Jupiter's satellites, which had been found to agree tolerably well with subsequent observations ; and since that

* These instruments were very inferior to those now in use under the same name. See "Treatise on Opt. Instrum."

time, amid all his other employments, he had almost unintermittingly during twenty-four years continued his observations, for the sake of bringing the tables of their motions to as high a state of perfection as possible. This was the point to which the inquiries of the States in their answer to Galileo's frank proposal were principally directed. They immediately appointed commissioners to communicate with him, and report the various points on which they required information. They also sent him a golden chain, and assured him that in the case of the design proving successful, he should have no cause to complain of their want of gratitude and generosity. The commissioners immediately commenced an active correspondence with him, in the course of which he entered into more minute details with regard to the methods by which he proposed to obviate the practical difficulties of the necessary observations.

It is worth noticing that the secretary to the Prince of Orange, who was mainly instrumental in forming this commission, was Constantine Huyghens, father of the celebrated mathematician of that name, of whom it has been said that he seemed destined to complete the discoveries of Galileo; and it is not a little remarkable, that Huyghens nowhere in his published works makes any allusion to this connexion between his father and Galileo, not even during the discussion that arose some years later on the subject of the pendulum clock, which must necessarily have forced it upon his recollection.

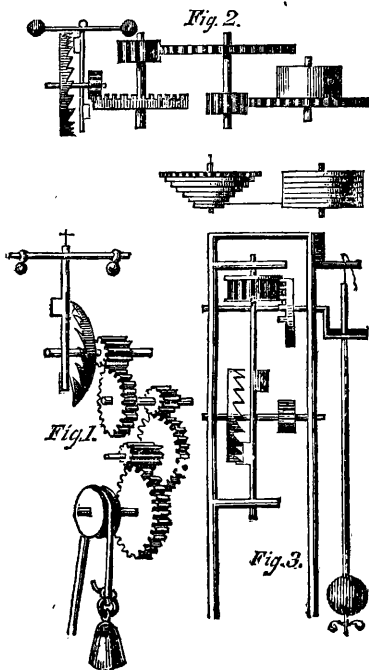
The Dutch commissioners had chosen one of their number to go into Italy for the purpose of communicating personally with Galileo, but he discouraged this scheme, from a fear of its giving umbrage at Rome. The correspondence being carried on at so great a distance necessarily experienced many tedious delays, till in the very midst of Galileo's labours to complete his tables, he was seized with the blindness which we have already mentioned. He then resolved to place all the papers containing his observations and calculations for this purpose in the hands of Renieri, a former pupil of his, and then professor of mathematics at Pisa, who undertook to finish and to forward them into Holland. Before this was done, a new delay was occasioned by the deaths which speedily followed each other of every one of the four commissioners;

and for two or three years the correspondence with Holland was entirely interrupted. Constantine Huyghens, who was capable of appreciating the value of the scheme, succeeded after some trouble in renewing it, but only just before the death of Galileo himself, by which of course it was a second time broken off; and to complete the singular series of obstacles by which the trial of this method was impeded, just as Renieri, by order of the Duke of Tuscany, was about to publish the ephemeris and tables which Galileo had entrusted to him, and which the Duke told Viviani he had seen in his possession, he also was attacked with a mortal malady; and upon his death the manuscripts were nowhere to be found, nor has it since been discovered what became of them. Montucla has intimated his suspicions that Renieri himself destroyed them, from a consciousness that they were insufficient for the purpose to which it was intended to apply them; a bold conjecture, and one which ought to rest upon something more than mere surmise: for although it may be considered certain, that the practical value of these tables would be very inconsiderable in the present advanced state of knowledge, yet it is nearly as sure that they were unique at that time, and Renieri was aware of the value which Galileo himself had set upon them, and should not be lightly accused of betraying his trust in so gross a manner. In 1665, Borelli calculated the places of the satellites for every day in the ensuing year, which he professed to have deduced (by desire of the Grand Duke) from Galileo's tables;* but he does not say whether or not these tables were the same that had been in Renieri's possession.

We have delayed till this opportunity to examine how far the invention of the pendulum clock belongs to Galileo. It has been asserted that the isochronism of the pendulum had been noticed by Leonardo da Vinci, but the passage on which this assertion is founded (as translated from his manuscripts by Venturi) scarcely warrants this conclusion. "A rod which engages itself in the opposite teeth of a spur-wheel can act like the arm of the balance in clocks, that is to say, it will act alternately, first on one side of the wheel, then on the opposite

* *Theoricæ Medicorum Planetarum*, Florentiæ, 1666.

one, without interruption." If Da Vinci had constructed a clock on this principle, and recognized the superiority of the pendulum over the old balance, he would surely have done more than merely mention it as affording an uninterrupted motion "like the arm of the balance." The use of the balance is supposed to have been introduced at least as early as the fourteenth century. Venturi mentions the drawing and description of a clock in one of the manuscripts of the King's Library at Paris, dated about the middle of the fifteenth century, which as he says nearly resembles a modern watch. The balance is there called "The circle fastened to the stem of the pallets, and moved by the force with it.* In that singularly wild and extravagant book, entitled "A History of both Worlds," by Robert Flud, are given two drawings of the wheel-work of the clocks and watches in use before the application of the pendulum. An inspection of them will show how little remained to be done when the isochronism of the pendulum was discovered. Fig. 1. represents "the



large clocks moved by a weight, such as are put up in churches and turrets ;

* Circulus affixus virgæ paletorum qui cum eâ de vi movetur.

fig. 2. the small ones moved by a spring, such as are worn round the neck, or placed on a shelf or table. The use of the chain is to equalize the spring, which is strongest at the beginning of its motion.* This contrivance of the chain is mentioned by Cardan, in 1570, and is probably still older. In both figures the name given to the cross bar, with the weight attached to it, is "the time or balance (*tempus seu libratio*) by which the motion is equalized." The manner in which Huyghens first applied the pendulum is shown in fig. 3.† The action in the old clocks of the balance, or *rake*, as it was also called, was by checking the motion of the descending weight till its inertia was overcome ; it was then forced round till the opposite pallet engaged in the toothed wheel. The balance was thus suddenly and forcibly reduced to a state of rest, and again set in motion in the opposite direction. It will be observed that these balances wanted the spiral spring introduced in all modern watches, which has a property of isochronism similar to that of the pendulum. Hooke is generally named as the discoverer of this property of springs, and as the author of its application to the improvement of watches, but the invention is disputed with him by Huyghens. Lahire asserts‡ that the isochronism of springs was communicated to Huyghens at Paris by Hautefeuille, and that this was the reason why Huyghens failed to obtain the patent he solicited for the construction of spring watches. A great number of curious contrivances at this early period in the history of Horology, may be seen in Schott's *Magia Naturæ*, published at Nuremberg in 1664.

Galileo was early convinced of the importance of his pendulum to the accuracy of astronomical observations ; but the progress of invention is such that the steps which on looking back seem the easiest to make, are often those which are the longest delayed. Galileo recognized the principle of the isochronism of the pendulum, and recommended it as a measurer of time in 1583 ; yet fifty years later, although constantly using it, he had not devised a more convenient method of doing so, than is contained in the following description taken from his "Astronomical Operations."

* *Utriusque Cosmi Historia*. Oppenheimii, 1617.

† *Huygenii Opera*. Lugduni, 1724.

‡ *Mémoires de l'Académie*, 1717.

"A very exact time-measurer for minute intervals of time, is a heavy pendulum of any size hanged by a fine thread, which, if removed from the perpendicular and allowed to swing freely, always completes its vibrations, be they great or small, in exactly the same time."*

The mode of finding exactly by means of this the quantity of any time reduced to hours, minutes, seconds, &c., which are the divisions commonly used among astronomers, is this:—"Fit up a pendulum of any length, as for instance about a foot long, and count patiently (only for once) the number of vibrations during a natural day. Our object will be attained if we know the exact revolution of the natural day. The observer must then fix a telescope in the direction of any star, and continue to watch it till it disappears from the field of view. At that instant he must begin to count the vibrations of the pendulum, continuing all night and the following day till the return of the same star within the field of view of the telescope, and its second disappearance, as on the first night. Bearing in recollection the total number of vibrations thus made in twenty-four hours, the time corresponding to any other number of vibrations will be immediately given by the Golden Rule."

A second extract out of Galileo's Dutch correspondence, in 1637, will show the extent of his improvements at that time:—"I come now to the second contrivance for increasing immensely the exactness of astronomical observations. I allude to my time-measurer, the precision of which is so great, and such, that it will give the exact quantity of hours, minutes, seconds, and even thirds, if their recurrence could be counted; and its constancy is such that two, four, or six such instruments will go on together so equably that one will not differ from another so much as the beat of a pulse, not only in an hour, but even in a day or a month."—"I do not make use of a weight hanging by a thread, but a heavy and solid pendulum, made for instance of brass or copper, in the shape of a circular sector of twelve or fifteen degrees, the radius of which may be two or three palms, and the greater it is the less trouble will there be in attending it. This sector, such as I have described, I make thickest in the middle radius,

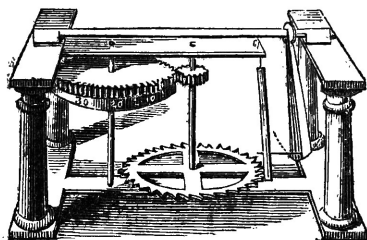
tapering gradually towards the edges, where I terminate it in a tolerably sharp line, to obviate as much as possible the resistance of the air, which is the sole cause of its retardation."

—[These last words deserve notice, because, in a previous discussion, Galileo had observed that the parts of the pendulum nearest the point of suspension have a tendency to vibrate quicker than those at the other end, and seems to have thought erroneously that the stoppage of the pendulum is partly to be attributed to this cause.]

—"This is pierced in the centre, through which is passed an iron bar shaped like those on which steelyards hang, terminated below in an angle, and placed on two bronze supports, that they may wear away less during a long motion of the sector. If the sector (when accurately balanced) be removed several degrees from its perpendicular position, it will continue a reciprocal motion through a very great number of vibrations before it will stop; and in order that it may continue its motion as long as is wanted, the attendant must occasionally give it a smart push, to carry it back to large vibrations." Galileo then describes as before the method of counting the vibrations in the course of a day, and gives the rule that the lengths of two similar pendulums will have the same proportion as the squares of their times of vibration. He then continues: "Now to save the fatigue of the assistant in continually counting the vibrations, this is a convenient contrivance: A very small and delicate needle extends out from the middle of the circumference of the sector, which in passing strikes a rod fixed at one end; this rod rests upon the teeth of a wheel as light as paper, placed in a horizontal plane near the pendulum, having round it teeth cut like those of a saw, that is to say, with one side of each tooth perpendicular to the rim of the wheel and the other inclined obliquely. The rod striking against the perpendicular side of the tooth moves it, but as the same rod returns against the oblique side, it does not move it the contrary way, but slips over it and falls at the foot of the following tooth, so that the motion of the wheel will be always in the same direction. And by counting the teeth you may see at will the number of teeth passed, and consequently the number of vibrations and of particles of time elapsed. You may also fit to the axis

* See page 84.

of this first wheel a second, with a small number of teeth, touching another greater toothed wheel, &c. But it is superfluous to point out this to you, who have by you men very ingenious and well skilled in making clocks and other admirable machines; and on this new principle, that the pendulum makes its great and small vibrations in the same time exactly, they will invent contrivances more subtle than any I can suggest; and as the error of clocks consists principally in the disability of workmen hitherto to adjust what we call the balance of the clock, so that it may vibrate regularly, my very simple pendulum, which is not liable to any alteration, affords a mean of maintaining the measures of time always equal." The contrivance thus described would be somewhat similar to the annexed representation, but it is almost certain that no such instrument was actually constructed.



It must be owned that Galileo greatly overrated the accuracy of his timekeeper; and in asserting so positively that which he had certainly not experienced, he seems to depart from his own principles of philosophizing. It will be remarked that in this passage he still is of the erroneous opinion, that all the vibrations great or small of the same pendulum take exactly the same time; and we have not been able to find any trace of his having ever held a different opinion, unless perhaps in the *Dialogues*, where he says, "If the vibrations are not exactly equal, they are at least insensibly different." This is very much at variance with the statement in the *Memoirs of the Academia del Cimento*, edited by their secretary Magalotti, on the credit of which Galileo's claim to the pendulum-clock chiefly rests. It is there said that experience shows that the smallest vibrations are rather the quickest, "as Galileo announced after the observation, which in 1583 he was the first to make of their approximate

equality." It is not possible immediately in connexion with so glaring a misstatement, to give implicit credence to the assertion in the next sentence, that "*to obviate this inconvenience*" Galileo was the first to contrive a clock, constructed in 1649, by his son Vincenzo, in which, by the action of a weight or spring, the pendulum was constrained to move always from the same height. Indeed it appears as if Magalotti did not always tell this story in the same manner, for he is referred to as the author of the account given by Becher, "that Galileo himself made a pendulum-clock one of which was sent to Holland," plainly insinuating that Huyghens was a mere copyist.* These two accounts therefore serve to invalidate each other's credibility. Tiraboschi† asserts that, at the time he wrote, the mathematical professor at Pisa was in possession of the identical clock constructed by Treffler under Vincenzo's directions; and quotes a letter from Campani, to whom it was shown by Ferdinand, "old, rusty, and unfinished as Galileo's son made it before 1649." Viviani on the other hand says that Treffler constructed this same clock some time after Vincenzo's death (which happened in 1649), on a different principle from Vincenzo's ideas, although he says distinctly that he heard Galileo describe an application of the pendulum to a clock similar to Huyghens' contrivance. Campani did not actually see this clock till 1659, which was three years after Huyghens' invention, so that perhaps Huyghens was too easily satisfied when, on occasion of the answer which Ferdinand sent to his complaints of the *Memorie del Cimento* he wrote to Bouillaud, "I must however believe, since such a prince assures me, that Galileo had this idea before me."

There is another circumstance almost amounting to a proof that it was an afterthought to attribute the merit of constructing the pendulum-clock to Galileo, for on the reverse of a medal struck by Viviani, and inscribed "to the memory of his excellent instructor,"‡ is a rude exhibition of the principal objects to which Galileo's attention was directed. The pendulum is represented simply by a weight attached to a string hanging on the face of a rock. It is probable that,

* De nova Temporis dimetiendi ratione. Londini, 1680.

† Storia della Lett. Ital.

‡ Museum Mazuchellianum, vol. ii, Tab. cvii, p. 29.

in a design expressly intended to commemorate Galileo's inventions, Viviani would have introduced the timekeeper in the most perfect form to which it had been brought by him. Riccioli,* whose industry was unwearied in collecting every fact and argument which related in any way to the astronomical and mechanical knowledge and opinions of his time, expressly recommends swinging a pendulum, or perpendicular as it was often called (only a few years before Huyghens' publication), as much more accurate *than any clock*.† Join to all these arguments Huyghens' positive assertion, that if Galileo had conceived any such idea, he at least was entirely ignorant of it,‡ and no doubt can remain that the merit of the original invention (such as it was) rests entirely with Huyghens. The step indeed seems simple enough for a less genius than his: for the property of the pendulum was known, and the conversion of a rotatory into a reciprocating motion was known; but the connexion of the one with the other having been so long delayed, we must suppose that difficulties existed where we are not now able to perceive them, for Huyghens' improvement was received with universal admiration.

There may be many who will consider the pendulum as undeserving so long a discussion; who do not know or remember that the telescope itself has hardly done more for the precision of astronomical observations than this simple instrument, not to mention the invaluable convenience of an uniform and accurate timekeeper in the daily intercourse of life. The patience and industry of modern observers are often the theme of well-merited praise, but we must look with a still higher degree of wonder on such men as Tycho-Brahe and his contemporaries, who were driven by the want of any timekeeper on which they could depend to the most laborious expedients, and who nevertheless persevered to the best of their ability, undisgusted either by the tedium of such processes, or by the discouraging consciousness of the necessary imperfection of their most approved methods and instruments.

The invariable regularity of the pendulum's motion was soon made subservient to ulterior purposes beyond that of

merely registering time. We have seen the important assistance it afforded in establishing the laws of motion; and when the theory founded on those laws was extended and improved, the pendulum was again instrumental, by a species of approximate reasoning familiar to all who are acquainted with physical inquiries, in pointing out by its minute irregularities in different parts of the earth, a corresponding change in the weight of all bodies in those different situations, supposed to be the consequence of a greater distance from the axis of the earth's rotation; since that would occasion the force of attraction to be counterbalanced by an increased centrifugal force. The theory which kept pace with the constantly increasing accuracy of such observations, proving consistent in all trials of it, has left little room for future doubts; and in this manner the pendulum in intelligent hands became the simplest instrument for ascertaining the form of the globe which we inhabit. An English astronomer, who corresponded with Kepler under the signature of Brutius (whose real name perhaps might be Bruce), had already declared his belief in 1603, that "the earth on which we tread is neither round nor globular, but more nearly of an oval figure."* There is nothing to guide us to the grounds on which he formed this opinion, which was perhaps only a lucky guess. Kepler's note upon it is: "This is not altogether to be contemned."

A farther use of the pendulum is in furnishing a general and unperishing standard of measure. This application is suggested in the third volume of the 'Reflections' of Mersenne, published in 1647, where he observes that it may be best for the future not to divide time into hours, minutes, and seconds, but to express its parts by the number of vibrations of a pendulum of given length, swinging through a given arc. It was soon seen that it would be more convenient to invert this process, and to choose as an unit of length the pendulum which should make a certain number of vibrations in the unit of time, naturally determined by the revolution of the earth on its axis. Our Royal Society took an active part in these experiments, which seem, notwithstanding their utility, to have met from the first with much of the same ridicule which was lavished

* Almagestum Novum, vol. i.

† Quovis horologio accuratius.

‡ Clarorum Belgarum ad Ant. Magliabech. Epistolæ. Florence, 1745, tom. i. p. 235.

* Kepleri Epistola.

upon them by the ignorant, when recently repeated for the same purpose. "I contend," says Graunt* in a dedication to the Royal Society, dated 1662, "against the envious schismatics of your society (who think you do nothing unless you presently transmute metals, make butter and cheese without milk, and, as their own ballad hath it, make leather without hides), by asserting the usefulness of even all your preparatory and luciferous experiments, being not the ceremonies, but the substance and principles of useful arts. For I find in trade the want of an universal measure, and have heard musicians wrangle about the just and uniform keeping of time in their consorts, and therefore cannot with patience hear that your labours about vibrations, eminently conducing to both, should be slighted, nor your pendula called swing-swangs with scorn."†

CHAPTER XIX.

Character of Galileo—Miscellaneous details—his Death—Conclusion.

THE remaining years of Galileo's life were spent at Arcetri, where indeed, even if the Inquisition had granted his liberty, his increasing age and infirmities would probably have detained him. The rigid caution with which he had been watched in Florence was in great measure relaxed, and he was permitted to see the friends who crowded round him to express their respect and sympathy. The Grand Duke visited him frequently, and many distinguished strangers, such as Gassendi and Deodati, came into Italy solely for the purpose of testifying their admiration of his character. Among other visitors the name of Milton will be read with interest: we may probably refer to the effects of this interview the allusions to Galileo's discoveries, so frequently introduced into his poem. Milton mentions in his 'Areopagitica,' that he saw Galileo whilst in Italy, but enters into no details of his visit.

* Natural and Political Observations. London, 1665.

† See also Hudibras, Part II. Cant. III. They're guilty by their own confessions Of felony, and at the Sessions Upon the bench I will so handle 'em, That the vibration of this pendulum Shall make all taylors' yards of one Unanimous opinion ; A thing he long has vaunted of, But now shall make it out of proof.

Hudibras was certainly written before 1663: ten years later Huyghens speaks of the idea of so employing the pendulum as a common one.

Galileo was fond of society, and his cheerful and popular manners rendered him an universal favourite among those who were admitted to his intimacy. Among these, Viviani, who formed one of his family during the three last years of his life, deserves particular notice, on account of the strong attachment and almost filial veneration with which he ever regarded his master and benefactor. His long life, which was prolonged to the completion of his 81st year in 1703, enabled him to see the triumphant establishment of the truths on account of which Galileo had endured so many insults; and even in his old age, when in his turn he had acquired a claim to the reverence of a younger generation, our Royal Society, who invited him among them in 1696, felt that the complimentary language in which they addressed him as the first mathematician of the age would have been incomplete and unsatisfactory without an allusion to the friendship that gained him the cherished title of "The last pupil of Galileo."*

Torricelli, another of Galileo's most celebrated followers, became a member of his family in October, 1641: he first learned mathematics from Castelli, and occasionally lectured for him at Rome, in which manner he was employed when Galileo, who had seen his book 'On Motion,' and augured the greatest success from such a beginning, invited him to his house—an offer which Torricelli eagerly embraced, although he enjoyed the advantages of it but for a short time. He afterwards succeeded Galileo in his situation at the court of Florence,† but survived him only a few years.

It is from the accounts of Viviani and Gherardini that we principally draw the following particulars of Galileo's person and character:—Signor Galileo was of a cheerful and pleasant countenance, especially in his old age, square built, and well proportioned in stature, and rather above the middle size. His complexion was fair and sanguine, his eyes brilliant, and his hair of a reddish cast. His constitution was naturally

* The words of his diploma are: Galilæi in mathematicis disciplinis discipulus, in ærumnis socius, Italicum ingenium ita perpolivit optimis artibus ut inter mathematicos sæculi nostri facile princeps per orbem litterarium numeretur.—Tiraboschi.

† On this occasion the taste of the time showed itself in the following anagram:—
Evangelista Torricellieus,
En virescit Galilæus alter.

strong, but worn out by fatigue of mind and body, so as frequently to be reduced to a state of the utmost weakness. He was subject to attacks of hypochondria, and often molested by severe and dangerous illnesses, occasioned in great measure by his sleepless nights, the whole of which he frequently spent in astronomical observations. During upwards of forty-eight years of his life, he was tormented with acute rheumatic pains, suffering particularly on any change of weather. He found himself most free from these pains whilst residing in the country, of which consequently he became very fond: besides, he used to say that in the country he had greater freedom to read the book of Nature, which lay there open before him. His library was very small, but well chosen, and open to the use of the friends whom he loved to see assembled round him, and whom he was accustomed to receive in the most hospitable manner. He ate sparingly himself; but was particularly choice in the selection of his wines, which in the latter part of his life were regularly supplied out of the Grand Duke's cellars. This taste gave an additional stimulus to his agricultural pursuits, and many of his leisure hours were spent in the cultivation and superintendence of his vineyards. It should seem that he was considered a good judge of wine; for Viviani has preserved one of his receipts in a collection of miscellaneous experiments. In it he strongly recommends that for wine of the first quality, that juice only should be employed, which is pressed out by the mere weight of the heaped grapes, which would probably be that of the ripest fruit. The following letter, written in his 74th year, is dated, "From my prison at Arcetri.—I am forced to avail myself of your assistance and favour, agreeably to your obliging offers, in consequence of the excessive chill of the weather, and of old age, and from having drained out my grand stock of a hundred bottles, which I laid in two years ago; not to mention some minor particulars during the last two months, which I received from my Serene Master, the Most Eminent Lord Cardinal, their Highnesses the Princes, and the Most Excellent Duke of Guise, besides cleaning out two barrels of the wine of this country. Now, I beg that with all due diligence and industry, and with consideration, and taking counsel with the most refined palates, you will pro-

vide me with two cases, that is to say, with forty flasks of different wines, the most exquisite that you can find: take no thought of the expense, because I stint myself so much in all other pleasures that I can afford to lay out something at the request of Bacchus, without giving offence to his two companions Ceres and Venus. You must be careful to leave out neither Scillo nor Carino (I believe they meant to call them Scylla and Charybdis), nor the country of my master, Archimedes of Syracuse, nor Greek wines, nor clarets, &c. &c. The expense I shall easily be able to satisfy, but not the infinite obligation."

In his expenditure Galileo observed a just mean between avarice and profusion: he spared no cost necessary for the success of his many and various experiments, and spent large sums in charity and hospitality, and in assisting those in whom he discovered excellence in any art or profession, many of whom he maintained in his own house. His temper was easily ruffled, but still more easily pacified. He seldom conversed on mathematical or philosophical topics except among his intimate friends; and when such subjects were abruptly brought before him, as was often the case by the numberless visitors he was in the habit of receiving, he showed great readiness in turning the conversation into more popular channels, in such manner however that he often contrived to introduce something to satisfy the curiosity of the inquirers. His memory was uncommonly tenacious, and stored with a vast variety of old songs and stories, which he was in the constant habit of quoting and alluding to. His favourite Italian authors were Ariosto, Petrarca, and Berni, great part of whose poems he was able to repeat. His excessive admiration of Ariosto determined the side which he took against Tasso in the virulent and unnecessary controversy which has divided Italy so long on the respective merits of these two great poets; and he was accustomed to say that reading Tasso after Ariosto was like tasting cucumbers after melons. When quite a youth, he wrote a great number of critical remarks on Tasso's *Gerusalemme Liberata*, which one of his friends borrowed, and forgot to return. For a long time it was thought that the manuscript had perished, till the Abbé Serassi discovered it, whilst collecting materials for his *Life of Tasso*, pub-

lished at Rome in 1785. Serassi being a violent partizan of Tasso, but also unwilling to lose the credit of the discovery, copied the manuscript, but without any intention of publishing it, "till he could find leisure for replying properly to the sophistical and unfounded attacks of a critic so celebrated on other accounts." He announced his discovery as having been made "in one of the famous libraries at Rome," which vague indication he with some reason considered insufficient to lead to a second discovery. On Serassi's death his copy was found, containing a reference to the situation of the original; the criticisms were published, and form the greatest part of the last volume of the Milan edition of Galileo's works. The manuscript was imperfect at the time of this second discovery, several leaves having been torn out, it is not known by whom.

The opinion of the most judicious Italian critics appears to be, that it would have been more for Galileo's credit if these remarks had never been made public: they are written in a spirit of flippant violence, such as might not be extraordinary in a common juvenile critic, but which it is painful to notice from the pen of Galileo. Two or three sonnets are extant written by Galileo himself, and in two instances he has not scrupled to appropriate the conceits of the poet he affected to undervalue.* It should be mentioned that Galileo's matured taste rather receded from the violence of his early prejudices, for at a later period of his life he used to shun comparing the two; and when forced to give an opinion he said, "that Tasso's appeared the finer poem, but that Ariosto gave him the greater pleasure." Besides these sonnets, there is extant a short burlesque poem written by him, "In abuse of Gowns," when, on his first becoming Professor at Pisa, he found himself obliged by custom to wear his professional habit in every company. It is written not without humour, but does not bear comparison with Berni, whom he imitated.

There are several detached subjects treated of by Galileo, which may be noticed in this place. A letter by him containing the solution of a problem in Chances is probably the earliest no-

tice extant of the application of mathematics to that interesting subject: the correspondence between Pascal and Fermat, with which its history is generally made to begin, not having taken place till at least twelve years later. There can be little doubt after the clear account of Carlo Dati, that Galileo was the first to examine the curve called the Cycloid, described by a point in the rim of a wheel rolling on a straight line, which he recommended as a graceful form for the arch of a bridge at Pisa. He even divined that the area contained between it and its base is exactly three times that of the generating circle. He seems to have been unable to verify this guess by strict geometrical reasoning, for Viviani tells an odd story, that in order to satisfy his doubts he cut out several large cycloids of pasteboard, but finding the weight in every trial to be rather less than three times that of the circle, he suspected the proportion to be irrational, and that there was some error in his estimation; the inquiry he abandoned was afterwards resumed with success by his pupil Torricelli.*

The account which Lagalla gives of an experiment shown in his presence by Galileo, carries the observation of the phosphorescence of the Bologna stone at least as far back as 1612.† Other writers mention the name of an alchemist, who according to them discovered it accidentally in 1603. Cesi, Lagalla, and one or two others, had passed the night at Galileo's house, with the intention of observing Venus and Saturn; but, the night being cloudy, the conversation turned on other matters, and especially on the nature of light, "on which Galileo took a small wooden box at daybreak before sunrise, and showed us some small stones in it, desiring us to observe that they were not in the least degree luminous. Having then exposed them for some time to the twilight, he shut the window again; and in the midst of the dark room showed us the stones, shining and glistening with a faint light, which we saw presently decay and become extinguished." In 1640, Liceti attempted to refer the effect of the earthshine upon the moon to a similar phosphorescent quality of that luminary, to which Galileo, then aged 76, replied by a long and able letter, enforcing the true explanation he had formerly given.

* Compare Son. ii. v. 8 & 9; and Son. iii. v. 2 & 3, with Ger. Lib. c. iv. st. 76, and c. vii. st. 19.—The author gladly owns his obligation for these remarks to the kindness of Sig. Panizzi, Professor of Italian in the University of London.

* Lettera di Timaeo Antiata. Firenze, 1668.
† De phaenomenis in orbe Lunæ. Venetis, 1612.

Although quite blind, and nearly deaf, the intellectual powers of Galileo remained to the end of his life; but he occasionally felt that he was overworking himself, and used to complain to his friend Micanzio that he found his head too busy for his body. "I cannot keep my restless brain from grinding on, although with great loss of time; for whatever idea comes into my head with respect to any novelty, drives out of it whatever I had been thinking of just before." He was busily engaged in considering the nature of the force of percussion, and Torricelli was employed in arranging his investigations for a continuation of the 'Dialogues on Motion,' when he was seized with an attack of fever and palpitation of the heart, which, after an illness of two months, put an end to his long, laborious, and useful life, on the 8th of January, 1642, just one year before his great successor Newton was born.

The malice of his enemies was scarcely allayed by his death. His right of making a will was disputed, as having died a prisoner to the Inquisition, as well as his right to burial in consecrated ground. These were at last conceded, but Urban anxiously interfered to prevent the design of erecting a monument to him in the church of Santa Croce, in Florence, for which a large sum had been subscribed. His body was accordingly buried in an obscure corner of the church, which for upwards of thirty years after his death was unmarked even by an inscription to his memory. It was not till a century later that the splendid monument was erected which now covers his and Viviani's remains. When their bodies were disinterred in 1737 for the purpose of being removed to their new resting-place, Capponi, the president of the Florentine Academy, in a spirit of spurious admiration, mutilated Galileo's body, by removing the thumb and forefinger of the right hand, and one of the vertebræ of the back, which are still preserved in some of the Italian museums. The monument was put up at the expense of his biographer, Nelli, to whom Viviani's property descended, charged with the condition of erecting it. Nor was this the only public testimony which Viviani gave of his attachment. The medal which he struck in honour of Galileo has already been mentioned; he also, as soon as it was safe to do so, covered every side of the house in which he lived with laudatory inscriptions to the

same effect. A bust of Galileo was placed over the door, and two bas-reliefs on each side representing some of his principal discoveries. Not less than five other medals were struck in honour of him during his residence at Padua and Florence, which are all engraved in Venturi's Memoirs.

There are several good portraits of Galileo extant, two of which, by Titi and Subtermanns, are engraved in Nelli's Life of Galileo. Another by Subtermanns is in the Florentine Gallery, and an engraving from a copy of this is given by Venturi. There is also a very fine engraving from the original picture. An engraving from another original picture is in the frontispiece of the Padua edition of his works. Salusbury seems in the following passage to describe a portrait of Galileo painted by himself: "He did not contemn the other inferior arts, for he had a good hand in sculpture and carving; but his particular care was to paint well. By the pencil he described what his telescope discovered; in one he exceeded art, in the other, nature. Osorius, the eloquent bishop of Sylva, esteems one piece of Mendoza the wise Spanish minister's felicity, to have been this, that he was contemporary to Titian, and that by his hand he was drawn in a fair tablet. And Galilæus, lest he should want the same good fortune, made so great a progress in this curious art, that he became his own *Buonarota*; and because there was no other copy worthy of his pencil, drew himself." No other author makes the slightest allusion to such a painting; and it appears more likely that Salusbury should be mistaken than that so interesting a portrait should have been entirely lost sight of.

Galileo's house at Arcetri was standing in 1821, when Venturi visited it, and found it in the same state in which Galileo might be supposed to have left it. It is situated nearly a mile from Florence, on the south-eastern side, and about a gun-shot to the north-west of the convent of St. Matthew. Nelli placed a suitable inscription over the door of the house, which belonged in 1821 to a Signor Alimari.*

Although Nelli's Life of Galileo disappointed the expectations that had been formed of it, it is impossible for any admirer of Galileo not to feel the greatest degree of gratitude towards

* Venturi.

him, for the successful activity with which he rescued so many records of the illustrious philosopher from destruction. After Galileo's death, the principal part of his books, manuscripts, and instruments, were put into the charge of Viviani, who was himself at that time an object of great suspicion; most of them he thought it prudent to conceal, till the superstitious outcries against Galileo should be silenced. At Viviani's death, he left his library, containing a very complete collection of the works of all the mathematicians who had preceded him (and amongst them those of Galileo, Torricelli, and Castelli, all which were enriched with notes and additions by himself), to the hospital of St. Mary at Florence, where an extensive library already existed. The directors of the hospital sold this unique collection in 1781, when it became entirely dispersed. The manuscripts in Viviani's possession passed to his nephew, the Abbé Panzanini, together with the portraits of the chief personages of the Galilean school, Galileo's instruments, and, among other curiosities, the emerald ring which he wore as a member of the Lincean Academy. A great number of these books and manuscripts were purchased at different times by Nelli, after the death of Panzanini, from his relations, who were ignorant or regardless of their value. One of his chief acquisitions was made by an extraordinary accident, related by Tozzetti with the following details, which we repeat, as they seem to authenticate the story:—"In the spring of 1739, the famous Doctor Lami went out according to his custom to breakfast with some of his friends at the inn of the Bridge, by the starting-place; and as he and Sig. Nelli were passing through the market, it occurred to them to buy some Bologna sausages from the pork-butcher, Cioci, who was supposed to excel in making them. They went into the shop, had their sausages cut off and rolled in paper, which Nelli put into his hat. On reaching the inn, and calling for a plate to put them in, Nelli observed that the paper in which they had been rolled was one of Galileo's letters. He cleaned it as well as he could with his napkin, and put it into his pocket without saying a word to Lami; and as soon as he returned into the city, and could get clear of him, he flew to the shop of Cioci, who told him that a servant whom he did not know brought him from time to time

similar letters, which he bought by weight as waste paper. Nelli bought all that remained, and on the servant's next reappearance in a few days, he learned the quarter whence they came, and after some time succeeded at a small expense in getting into his own possession an old corn-chest, containing all that still remained of the precious treasures which Viviani had concealed in it ninety years before."*

The earliest biographical notice of Galileo is that in the Obituary of the *Mercurio Italico*, published at Venice in 1647, by Vittorio Siri. It is very short, but contains an exact enumeration of his principal works and discoveries. Rossi, who wrote under the name of Janus Nicius Erythræus, introduced an account of Galileo in his *Pinacotheca Imaginum Illustrium*, in which the story of his illegitimacy first made its appearance. In 1664, Salusbury published a life of Galileo in the second volume of his *Mathematical Collections*, the greater part of which is a translation of Galileo's principal works. Almost the whole edition of the second volume of Salusbury's book was burnt in the great fire of London. Chauffepié says that only one copy is known to be extant in England: this is now in the well-known library of the Earl of Macclesfield, to whose kindness the author is much indebted for the use he has been allowed to make of this unique volume. A fragment of this second volume is in the Bodleian Library at Oxford. The translations in the preceding pages are mostly founded upon Salusbury's version. Salusbury's account, although that of an enthusiastic admirer of Galileo, is too prolix to be interesting: the general style of the performance may be guessed from the title of the first chapter—"Of Man in general, and how he excelleth all the other Animals." After informing his readers that Galileo was born at Pisa, he proceeds:—"Italy is affirmed to have been the first that peopled the world after the universal deluge, being governed by Janus, Cameses, and Saturn, &c." His description of Galileo's childhood is somewhat quaint. "Before others had left making of dirt pyes, he was framing of diagrams; and whilst others were whipping of toppes, he was considering the cause of their motion." It is on the

* Notizie sul Ingrandimento delle Scienze Fisiche. Firenze, 1780.

whole tolerably correct, especially if we take into account that Salusbury had not yet seen Viviani's Life, though composed some years earlier.

The Life of Galileo by Viviani was first written as an outline of an intended larger work, but this latter was never completed. This sketch was published in the Memoirs of the Florentine Academy, of which Galileo had been one of the annual presidents, and afterwards prefixed to the complete editions of Galileo's works; it is written in a very agreeable and flowing style, and has been the groundwork of most subsequent accounts. Another original memoir by Niccolò Gherardini, was published by Tozzetti. A great number of references to authors who have treated of Galileo is given by Sach in his *Onomasticon*. An approved Latin memoir by Brenna is in the first volume of Fabroni's *Vitæ Itolorum Illustrium*; he has however fallen into several errors: this same work contains the lives of several of his principal followers.

The article in *Chauffepié's Continuation of Bayle's Dictionary* does not contain anything which is not in the earlier accounts.

Andrès wrote an essay entitled '*Saggio sulla Filosofia del Galileo*,' published at Mantua 1776; and Jagemann published his '*Geschichte des Leben des Galileo*' at Leipzig, in 1787;* neither of these the author has been able to meet with. An analysis of the latter may be seen in Kästner's '*Geschichte der Mathematik*, Göttingen, 1800,' from which it does not appear to contain any additional details. The '*Elogio del Galileo*' by Paolo Frisi, first published at Leghorn in 1775, is, as its title expresses, rather in the nature of a panegyric than of a continuous biographical account. It is written with very great elegance and intimate knowledge of the subjects of which it treats. Nelli gave several curious particulars with respect to Galileo in his '*Saggio di Storia Letteraria Fiorentina*, Lucca, 1759;' and in 1793 published his large work entitled '*Vita e Commercio Letterario di Galileo Galilei*.' So uninteresting a book was probably never written from such excellent materials. Two thick quarto volumes are filled with repetitions of the accounts that were already in print, the bulky preparation

of which compelled the author to forego the publication of the vast collection of original documents which his unwearied zeal and industry had collected. This defect has been in great measure supplied by Venturi in 1818 and 1821, who has not only incorporated in his work many of Nelli's manuscripts, but has brought together a number of scattered notices of Galileo and his writings from a variety of outlying sources—a service which the writer is able to appreciate from having gone through the greatest part of the same labour before he was fortunate enough to meet with Venturi's book. Still there are many letters cited by Nelli, which do not appear either in his book or Venturi's. Carlo Dati, in 1663, quotes "the registers of Galileo's correspondence arranged in alphabetical order, in ten large volumes."* The writer has no means of ascertaining what collection this may have been; it is difficult to suppose that one so arranged should have been lost sight of. It is understood that a life of Galileo is preparing at this moment in Florence, by desire of the present Grand Duke, which will probably throw much additional light on the character and merits of this great and useful philosopher.

The first editions of his various treatises, as mentioned by Nelli, are given below. Clement, in his '*Bibliothèque Curieuse*,' has pointed out such among them, and the many others which have been printed, as have become rare.

The Florentine edition is the one used by the Academia della Crusca for their references; for which reason its paging is marked in the margin of the edition of Padua, which is much more complete, and is the one which has been on the present occasion principally consulted.

The latter contains the Dialogue on the System, which was not suffered to be printed in the former editions. The twelve first volumes of the last edition of Milan are a mere transcript of that of Padua: the thirteenth contains in addition the Letter to the Grand Duchess, the Commentary on Tasso, with some minor pieces. A complete edition is still wanted, embodying all the recently discovered documents, and omitting the verbose commentaries, which, however useful when they were written, now convey little information that cannot be more agreeably and more profitably learned in treatises of a later date.

* Venturi.

* Lettera di Timauro Antiato.

Such was the life, and such were the pursuits, of this extraordinary man. The numberless inventions of his acute industry; the use of the telescope, and the brilliant discoveries to which it led; the patient investigation of the laws of weight and motion; must all be looked upon as forming but a part of his real merits, as merely particular demonstrations of the spirit in which he everywhere withstood the despotism of ignorance, and appealed boldly from traditional opinions to the judgments of reason and common sense. He claimed and bequeathed to us the right of exercising our faculties in examining the beautiful creation which surrounds

us. Idolized by his friends, he deserved their affection by numberless acts of kindness; by his good humour, his affability, and by the benevolent generosity with which he devoted himself and a great part of his limited income to advance their talents and fortunes. If an intense desire of being useful is everywhere worthy of honour; if its value is immeasurably increased, when united to genius of the highest order; if we feel for one who, notwithstanding such titles to regard, is harassed by cruel persecution,—then none deserve our sympathy, our admiration, and our gratitude, more than Galileo.

List of Galileo's Works.

Le Operazioni del Compasso Geom. e Milit.	Padova, 1606.	Fol.
Difesa di Gal. Galilei contr. all. cal. et impost. di Bald. Capra	Venezza, 1607.	4to.
Sydereus Nuncius	Venetis, 1610.	4to.
Discorso int. alle cose che stanno in su l'Acqua	Firenze, 1612.	4to.
Novantiqua SS. PP. Doctrina de S. Scripturæ Testimoniis	Argent, 1612.	4to.
Istoria e Demostr. int. alle Macchie Solari	Roma, 1613.	4to.
Risp. alle oppos. del S. Lod. delle Colombe e del S. Vinc. di Grazia	Firenze, 1615.	4to.
Discorso delle Comete di Mario Guiducci	Firenze, 1619.	4to.
Dialogo sopra i due Massimi Sistemi del Mondo	Firenze, 1632.	4to.
Discorso e Demostr. intorno alle due nuove Scienze	Leida, 1638.	4to.
Della Scienza Meccanica	Ravenna, 1649.	4to.
Trattato della Sfera	Roma, 1655.	4to.
Discorso sopra il Flusso e Reflusso. (Scienze Fisiche di Tozzetti.)	Firenze, 1780.	4to.
Considerazioni sul Tasso	Roma, 1793.	
Trattato della Fortificazione. (Memorie di Venturi.)	Modena, 1818.	4to.

The editions of his collected works (in which is contained much that was never published separately) are—

Opere di Gal. Galilei, Linc. Nob. Fior. &c.	Bologna, 1656.	2 vols. 4to.
Opere di Gal. Galilei, Nob. Fior. Accad. Linc. &c.	Firenze, 1718.	3 vols. 4to.
Opere di Gal. Galilei	Padova, 1744.	4 vols. 4to.
Opere di Gal. Galilei	Milano, 1811.	13 vols. 8vo.

CORRECTIONS.

Page Co. Lins.

- 5 1 2, *Add*: His instructor was the celebrated botanist, Andreas Cæsalpinus, who was professor of medicine at Pisa from 1567 to 1592. Hist. Acad. Pisan.; Pisis, 1791.
- 8 2 18, *Add*: According to Kästner, his German name was Wursteisen.
- 8 2 21, *for* 1588 *read* 1586.
- 15 1 57, *for* 1632 *read* 1630.
- 17 1 29. Salusbury alludes to the instrument described and figured in "The Use of the Sector, Crosse Staffe, and other Instruments. London, 1624." It is exactly Galileo's Compass.
- 17 1 52, *for* Burg, a German, *read* Burgi, a Swiss.
- 27 2 17. The author here called Brutti was an Englishman: his real name, perhaps, was Bruce. See p. 99.
- 50 1 14. Kepler's Epitome was not published till 1619: it was then inserted in the Index.
- 73 1 60, *for* under *read* turned from.
- 78 1 50, *for* any *read* an indefinitely small.

LIFE OF KEPLER.

CHAPTER I.

Introduction—Birth and Education of Kepler—He is appointed Astronomical Professor at Gratz—Publishes the 'Mysterium Cosmographicum.'

IN the account of the life and discoveries of Galileo, we have endeavoured to inculcate the safety and fruitfulness of the method followed by that great reformer in his search after physical truth. As his success furnishes the best instance of the value of the inductive process, so the failures and blunders of his adversaries supply equally good examples of the dangers and the barrenness of the opposite course. The history of JOHN KEPLER might, at the first view, suggest conclusions somewhat inconsistent with this remark. Every one who is but moderately acquainted with astronomy is familiar with the discoveries which that science owes to him; the manner in which he made them is, perhaps, not so generally known. This extraordinary man pursued, almost invariably, the hypothetical method. His life was passed in speculating on the results of a few principles assumed by him, from very precarious analogies, as the causes of the phenomena actually observed in Nature. We nevertheless find that he did, in spite of this unphilosophical method, arrive at discoveries which have served as guides to some of the most valuable truths of modern science.

The difficulty will disappear if we attend more closely to the details of Kepler's investigations. We shall perceive that to an unusual degree of rashness in the formation of his systems, he added a quality very rarely possessed by philosophers of the hypothetical school. One of the greatest intellectual vices of the latter was a wilful blindness to the discrepancy of facts from their creed, a perverse and obstinate resistance to physical evidence, leading not unfrequently to an attempt at disguising the truth. From this besetting sin of the school, which from an intellectual fault often degenerated into a moral one, Kepler was absolutely free.

Scheme after scheme, resting originally upon little beyond his own glowing imagination, but examined and endeared by the ceaseless labour of years, was unhesitatingly sacrificed, as soon as its insufficiency became indisputable, to make room for others as little deserving support. The history of philosophy affords no more remarkable instance of sincere uncompromising love of truth. To this virtue he owed his great discoveries: it must be attributed to his unhappy method that he made no more.

In considering this opinion upon the real nature of Kepler's title to fame, it ought not to be forgotten that he has exposed himself at a disadvantage on which certainly very few philosophers would venture. His singular candour allowed him to comment upon his own errors with the same freedom as if scrutinizing the work of a stranger; careless whether the impression on his readers were favourable or otherwise to himself, provided it was instructive. Few writers have spoken so much, and so freely of themselves, as Kepler. He records, on almost every occasion, the train of thought by which he was led to each of the discoveries that eventually repaid his perseverance; and he has thus given us a most curious and interesting view of the workings of a mind of great, though eccentric power. "In what follows," says he (when introducing a long string of suppositions, of which he had already discovered the fallacy), "let the reader pardon my credulity, whilst working out all these matters by my own ingenuity. For it is my opinion that the occasions by which men have acquired a knowledge of celestial phenomena are not less admirable than the discoveries themselves." Agreeing altogether with this opinion in its widest application, we have not scrupled, in the following sketch, to introduce at some length an account even of Kepler's erroneous speculations; they are in themselves very amusing, and will have the additional utility of proving the dangerous tendency of his method; they will show by how many absurd theories, and how

many years of wasted labour, his real discoveries and services to science lie surrounded.

JOHN KEPLER was born (as we are assured by his earliest biographer Hantsch) in long. $29^{\circ} 7'$, lat. $48^{\circ} 54'$, on the 21st day of December, 1571. On this spot stands the imperial city of Weil, in the duchy of Wirtemberg. His parents were Henry Kepler and Catherine Guldenmann, both of noble, though decayed families. Henry Kepler, at the time of his marriage, was a petty officer in the Duke of Wirtemberg's service; and a few years after the birth of his eldest son John, he joined the army then serving in the Netherlands. His wife followed him, leaving their son, then in his fifth year, at Leonberg, under the care of his grandfather. He was a seven months child, very weak and sickly; and after recovering with difficulty from a severe attack of small-pox, he was sent to school in 1577. Henry Kepler's limited income was still farther reduced on his return into Germany, the following year, in consequence of the absconding of one of his acquaintance, for whom he had incautiously become surety. His circumstances were so much narrowed by this misfortune, that he was obliged to sell his house, and nearly all that he possessed, and for several years he supported his family by keeping a tavern at Elmendingen. This occasioned great interruption to young Kepler's education; he was taken from school, and employed in menial services till his twelfth year, when he was again placed in the school at Elmendingen. In the following year he was again seized with a violent illness, so that his life was almost despaired of. In 1586, he was admitted into the monastic school of Maulbronn, where the cost of his education was defrayed by the Duke of Wirtemberg. This school was one of those established on the suppression of the monasteries at the Reformation, and the usual course of education followed there required that the students, after remaining a year in the superior classes, should offer themselves for examination at the college of Tübingen for the degree of bachelor: they then returned to their school with the title of veterans; and after completing the studies taught there, they were admitted as resident students at Tübingen, proceeded in about a year to the degree of master, and were then allowed to commence their course of theology. The

three years of Kepler's life following his admission to Maulbronn, were marked by periodical returns of several of the disorders which had well nigh proved fatal to him in his childhood. During the same time disagreements arose between his parents, in consequence of which his father quitted his home, and soon after died abroad. After his father's departure, his mother also quarrelled with her relations, having been treated, says Hantsch, "with a degree of barbarity by her husband and brother-in-law that was hardly exceeded even by her own perverseness:" one of his brothers died, and the family-affairs were in the greatest confusion. Notwithstanding these disadvantages, Kepler took his degree of master in August 1591, attaining the second place in the annual examination. The first name on the list was John Hippolytus Brentius.

Whilst he was thus engaged at Tübingen, the astronomical lectureship at Gratz, the chief town of Styria, became vacant by the death of George Stadt, and the situation was offered to Kepler. Of this first occasion of turning his thoughts towards astronomy, he has himself given the following account: "As soon as I was of an age to feel the charms of philosophy, I embraced every part of it with intense desire, but paid no especial regard to astronomy. I had indeed capacity enough for it, and learned without difficulty the geometrical and astronomical theorems occurring in the usual course of the school, being well grounded in figures, numbers, and proportions. But those were compulsory studies—there was nothing to show a particular turn for astronomy. I was educated at the expense of the Duke of Wirtemberg, and when I saw such of my companions as the duke selected to send abroad shrink in various ways from their employments, out of fondness for home, I, who was more callous, had early made up my mind to go with the utmost readiness whithersoever I might be sent. The first offering itself was an astronomical post, which I was in fact forced to accept by the authority of my tutors; not that I was alarmed, in the manner I had condemned in others, by the remoteness of the situation, but by the unexpected and contemptible nature of the office, and by the slightness of my information in this branch of philosophy. I entered on it, therefore, better furnished with talent than knowledge: with many protestations that I was

not abandoning my claim to be provided for in some other more brilliant profession. What progress I made in the first two years of my studies, may be seen in my 'Mysterium Cœsmographicum;' and the encouragement given me by my tutor, Mästlin, to take up the science of astronomy, may be read in the same book, and in his letter which is prefixed to the 'Narrative of Rheticus.' I looked on that discovery as of the highest importance, and still more so, because I saw how greatly it was approved by Mästlin."

The nature of the singular work to which Kepler thus refers with so much complacency, will be best shown by quoting some of the most remarkable parts of it, and especially the preface, in which he briefly details some of the theories he successively examined and rejected, before detecting (as he imagined he had here done) the true cause of the number and order of the heavenly bodies. The other branches of philosophy with which he occupied himself in his younger years, were those treated by Scaliger in his 'Exoteric Exercises,' to the study of which book Kepler attributed the formation of many of his opinions; and he tells us that he devoted much time "to the examination of the nature of heaven, of souls, of genii, of the elements, of the essence of fire, of the cause of fountains, the ebb and flow of the tide, the shape of the continents, and inland seas, and things of this sort." He also says, that by his first success with the heavens, his hopes were greatly inflamed of discovering similar analogies in the rest of the visible world, and for this reason, named his book merely a *Prodromus*, or *Forerunner*, meaning, at some future period, to subjoin the *Aftercomer*, or *Sequel*. But this intention was never fulfilled; either his imagination failed him, or, what is more likely, the laborious calculations in which his astronomical theories engaged him, left him little time for turning his attention to objects unconnected with his first pursuit.

It is seldom that we are admitted to trace the progress of thought in those who have distinguished themselves by talent and originality; and although the whole of the following speculations begin and end in error, yet they are so characteristic, and exhibit such an extraordinary picture of the extravagances into which Kepler's lively imagination was continually hurrying him, that we cannot refrain from citing nearly the

whole preface. From it, better than from any enumeration of peculiarities, the reader will at once apprehend the nature of his disposition.

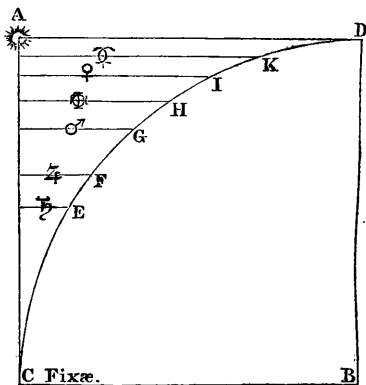
"When I was attending the celebrated Mästlin, six years ago, at Tübingen, I was disturbed by the manifold inconveniences of the common theory of the universe, and so delighted with Copernicus, whom Mästlin was frequently in the habit of quoting with great respect, that I not only often defended his propositions in the physical disputations of the candidates, but also wrote a correct essay on the primary motion, maintaining, that it is caused by the rotation of the earth. And I was then at that point that I attributed to the earth the motion of the sun on physical (or, if you will, on metaphysical) grounds, as Copernicus had done for mathematical reasons. And, by this practice, I came by degrees, partly from Mästlin's instructions, and partly from my own efforts, to understand the superior mathematical convenience of the system of Copernicus beyond Ptolemy's. This labour might have been spared me, by Joachim Rheticus, who has shortly and clearly explained everything in his first Narrative. While incidentally engaged in these labours, in the intermission of my theology, it happened conveniently that I succeeded George Stadt in his situation at Gratz, where the nature of my office connected me more closely with these studies. Everything I had learned from Mästlin, or had acquired of myself, was there of great service to me in explaining the first elements of astronomy. And, as in Virgil, '*Fama mobilitate viget, viresque acquirit eundo*,' so it was with me, that the diligent thought on these things was the occasion of still further thinking: until, at last, in the year 1595, when I had some intermission of my lectures allowed me, I brooded with the whole energy of my mind on this subject. There were three things in particular, of which I pertinaciously sought the causes why they are not other than they are: the number, the size, and the motion of the orbits. I attempted the thing at first with numbers, and considered whether one of the orbits might be double, triple, quadruple, or any other multiple of the others, and how much, according to Copernicus, each differed from the rest. I spent a great deal of time in that labour, as if it were mere sport, but could find no equality either in the proportions or

the differences, and I gained nothing from this beyond imprinting deeply in my memory the distances as assigned by Copernicus; unless, perhaps, reader, this record of my various attempts may force your assent, backwards and forwards, as the waves of the sea; until tired at length, you will willingly repose yourself, as in a safe haven, on the reasons explained in this book. However, I was comforted in some degree, and my hopes of success were supported as well by other reasons which will follow presently, as by observing that the motions in every case seemed to be connected with the distances, and that where there was a great gap between the orbits, there was the same between the motions. And I reasoned, that if God had adapted motions to the orbits in some relation to the distances, it was probable that he had also arrayed the distances themselves in relation to something else.

"Finding no success by this method, I tried another, of singular audacity. I inserted a new planet between Mars and Jupiter, and another between Venus and Mercury, both of which I supposed invisible, perhaps on account of their smallness, and I attributed to each a certain period of revolution.* I thought that I could thus contrive some equality of proportions, increasing between every two, from the sun to the fixed stars. For instance, the Earth is nearer Venus in parts of the terrestrial orbit, than Mars is to the Earth in parts of the orbit of Mars. But not even the interposition of a new planet sufficed for the enormous gap between Mars and Jupiter; for the proportion of Jupiter to the new planet was still greater than that of Saturn to Jupiter. And although, by this supposition, I got some sort of a proportion, yet there was no reasonable conclusion, no certain determination of the number of the planets either towards the fixed stars, till we should get as far as them, nor ever towards the Sun, because the division in this proportion of the residuary space within Mercury might be continued without end. Nor

could I form any conjecture, from the mobility of particular numbers, why, among an infinite number, so few should be moveable. The opinion advanced by Rheticus in his Narrative is improbable, where he reasons from the sanctity of the number six to the number of the six moveable heavens; for he who is inquiring of the frame of the world itself, must not derive reasons from these numbers, which have gained importance from things of later date.

"I sought again, in another way, whether the distance of every planet is not as the residuum of a sine; and its motion as the residuum of the sine of the complement in the same quadrant.

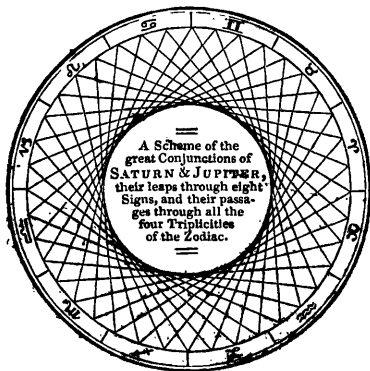


"Conceive the square AB to be constructed, whose side AC is equal to the semidiameter of the universe. From the angle B opposite to A the place of the sun, or centre of the world, describe the quadrant DC with the radius BC. Then in AC, the true radius of the world, let the sun, fixed stars, and planets be marked at their respective distances, and from these points draw lines parallel to BC, meeting the quadrant. I imagined the moving force acting on each of the planets to be in the proportion of these parallels. In the line of the sun is infinity, because AD is touched, and not cut, by the quadrant: therefore the moving force is infinite in the sun, as deriving no motion except from its own act. In Mercury the infinite line is cut off at K, and therefore at this point the motion is comparable with the others. In the fixed stars the line is altogether lost, and compressed into a mere point C; therefore at that point there is no moving force. This was the theorem, which was to be tried by cal-

* The following scrupulous note added by Kepler in 1621 to a subsequent edition of this work, deserves to be quoted. It shows how entirely superior he was to the paltriness of attempting to appropriate the discoveries of others, of which many of his contemporaries had exhibited instances even on slighter pretences than this passage might have afforded him. The note is as follows: "Not circulating round Jupiter like the Medicinan stars. Be not deceived. I never had them in my thoughts, but, like the other primary planets, including the sun in the centre of the system within their orbits."

ulation; but if any one will reflect that two things were wanting to me, first, that I did not know the size of the *Sinus Totus*, that is, the radius of the proposed quadrant; secondly, that the energies of the motions were not thus expressed otherwise than in relation one to another; whoever, I say, well considers this, will doubt, not without reason, as to the progress I was likely to make in this difficult course. And yet, with unremitting labour, and an infinite reciprocation of sines and arcs, I did get so far as to be convinced that this theory could not hold.

"Almost the whole summer was lost in these annoying labours; at last, by a trifling accident, I lighted more nearly on the truth. I looked on it as an interposition of Providence, that I should obtain by chance, what I had failed to discover with my utmost exertions; and I believed this the more, because I prayed constantly that I might succeed, if Copernicus had really spoken the truth. It happened on the 9th or 10th* day of July, in the year 1595, that, having occasion to show, in my lecture-room, the passages of the great conjunctions through eight signs, and how they pass gradually from one trine aspect to another, I inscribed in a circle



a great number of triangles, or quasi-triangles, so that the end of one was made the beginning of another. In this manner a smaller circle was shadowed out by the points in which the lines crossed each other.

"The radius of a circle inscribed in a triangle is half the radius of that described about it; therefore the pro-

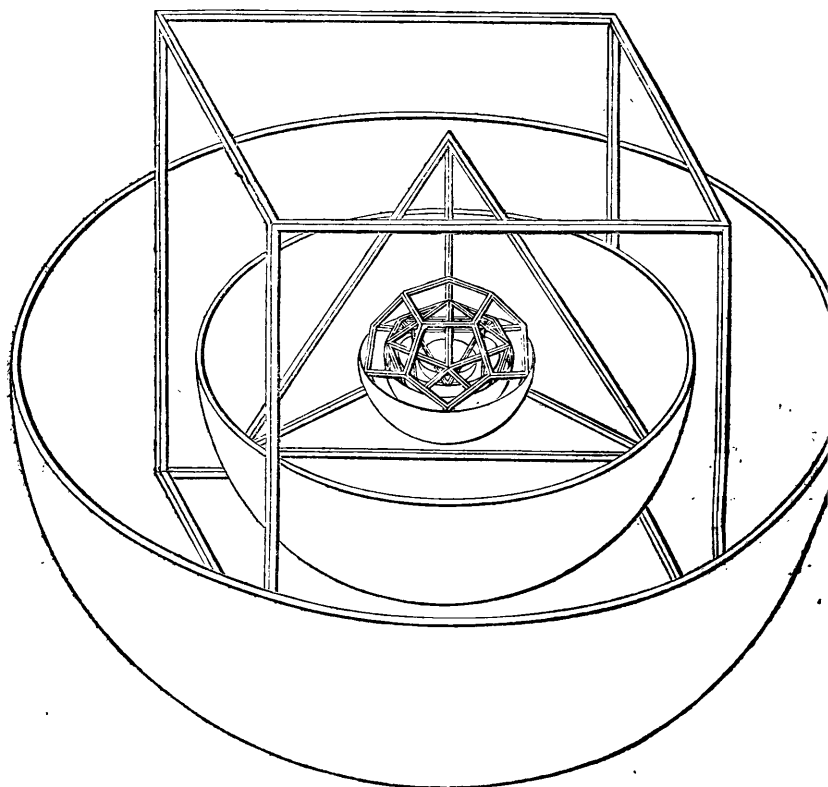
portion between these two circles struck the eye as almost identical with that between Saturn and Jupiter, and the triangle is the first figure, just as Saturn and Jupiter are the first planets. On the spot I tried the second distance between Jupiter and Mars with a square, the third with a pentagon, the fourth with a hexagon. And as the eye again cried out against the second distance between Jupiter and Mars, I combined the square with a triangle and a pentagon. There would be no end of mentioning every trial. The failure of this fruitless attempt was the beginning of the last fortunate one; for I reflected, that in this way I should never reach the sun, if I wished to observe the same rule throughout; nor should I have any reason why there were six, rather than twenty or a hundred moveable orbits. And yet figures pleased me, as being quantities, and as having existed before the heavens; for quantity was created with matter, and the heavens afterwards. But if (this was the current of my thoughts), in relation to the quantity and proportion of the six orbits, as Copernicus has determined them among the infinite other figures, five only could be found having peculiar properties above the rest, my business would be done. And then again it struck me, what have plane figures to do among solid orbits? Solid bodies ought rather to be introduced. This, reader, is the invention and the whole substance of this little work; for if any one, though but moderately skilled in geometry, should hear these words hinted, the five regular solids will directly occur to him with the proportions of their circumscribed and inscribed spheres: he has immediately before his eyes that scholium of Euclid to the 18th proposition of his 13th Book, in which it is proved to be impossible that there should be, or be imagined, more than five regular bodies.

"What is worthy of admiration (since I had then no proof of any prerogatives of the bodies with regard to their order) is, that employing a conjecture which was far from being subtle, derived from the distances of the planets, I should at once attain my end so happily in arranging them, that I was not able to change anything afterwards with the utmost exercise of my reasoning powers. In memory of the event, I write down here for you the sentence, just as it fell from me, and in the words in which it was that moment conceived:—The Earth is the

* This inconvenient mode of dating was necessary before the new or Gregorian style was universally adopted.

circle, the measurer of all ; round it describe a dodecahedron, the circle including this will be Mars. Round Mars describe a tetrahedron, the circle including this will be Jupiter. Describe a cube round Jupiter, the circle including

this will be Saturn. Now, inscribe in the Earth an icosaedron, the circle inscribed in it will be Venus. Inscribe an octaedron in Venus, the circle inscribed in it will be Mercury. This is the reason of the number of the planets.



"This was the cause, and such the success, of my labour : now read my propositions in this book. The intense pleasure I have received from this discovery never can be told in words. I regretted no more the time wasted ; I tired of no labour ; I shunned no toil of reckoning ; days and nights I spent in calculations, until I could see whether this opinion would agree with the orbits of Copernicus, or whether my joy was to vanish into air. I willingly subjoin that sentiment of Archytas, as given by Cicero : 'If I could mount up into heaven, and thoroughly perceive the nature of the world, and beauty of the stars, that admiration would be without a charm for me, unless I had some one like you, reader, candid, attentive, and eager for knowledge, to whom to describe it.' If

you acknowledge this feeling, and are candid, you will refrain from blame, such as not without cause I anticipate ; but if, leaving that to itself, you fear lest these things be not ascertained, and that I have shouted triumph before victory, at least approach these pages, and learn the matter in consideration : you will not find, as just now, new and unknown planets interposed ; that boldness of mine is not approved, but those old ones very little loosened, and so furnished by the interposition (however absurd you may think it) of rectilinear figures, that in future you may give a reason to the rustics when they ask for the hooks which keep the skies from falling.—Farewell."

In the third chapter Kepler mentions, that a thickness must be allowed to

each orb sufficient to include the greatest and least distance of the planet from the sun. The form and result of his com-

parison with the real distances are as follows:—

Book V.

If the inner surface of the orbit of	$\left\{ \begin{array}{l} \text{Saturn} \\ \text{Jupiter} \\ \text{Mars} \\ \text{Earth} \\ \text{Venus} \end{array} \right\}$	be taken at 1000, then the outer one of	$\left\{ \begin{array}{l} \text{Jupiter} = 577 \\ \text{Mars} = 333 \\ \text{Earth} = 795 \\ \text{Venus} = 795 \\ \text{Mercury} = 577 \end{array} \right\}$	According to Copernicus they are	$\left\{ \begin{array}{l} 635 \text{ Ch. } 9 \\ 333 \text{ — } 14 \\ 757 \text{ — } 19 \\ 794 \text{ — } 21, 22 \\ 723 \text{ — } 27 \end{array} \right\}$
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It will be observed, that Kepler's results were far from being entirely satisfactory; but he seems to have flattered himself, that the differences might be attributed to erroneous measurements. Indeed, the science of observation was then so much in its infancy, that such an assertion might be made without incurring much risk of decisive refutation.

Kepler next endeavoured to determine why the regular solids followed in this rather than any other order; and his imagination soon created a variety of essential distinctions between the cube, pyramid, and dodecahedron, belonging to the superior planets, and the other two.

The next question examined in the book, is the reason why the zodiac is divided into 360 degrees; and on this subject, he soon becomes enveloped in a variety of subtle considerations, (not very intelligible in the original, and still more difficult to explain shortly to others unacquainted with it,) in relation to the divisions of the musical scale; the origin of which he identifies with his five favourite solids. The twentieth chapter is appropriated to a more interesting inquiry, containing the first traces of his finally successful researches into the proportion between the distances of the planets, and the times of their motions round the sun. He begins with the generally admitted fact, that the more distant planets move more slowly; but in order to show that the proportion, whatever it may be, is not the simple one of the distances, he exhibits the following little Table:—

planet placed above it, and underneath the days due to the other inferior planets, if they observed the proportion of distance. Hence it appears that this proportion in every case gives a time greater than the truth; as for instance, if the earth's rate of revolution were to Jupiter's in the proportion of their distances, the second column shows that the time of her period would be 843 instead of 365½ days; so of the rest. His next attempt was to compare them by two by two, in which he found that he arrived at a proportion something like the proportion of the distances, although as yet far from obtaining it exactly. This process amounts to taking the quotients obtained by dividing the period of each planet by the period of the one next beyond.

For if each of the Periods of	$\left\{ \begin{array}{l} \text{♄ } 10759.27 \\ \text{♃ } 4332.37 \\ \text{♂ } 686.59 \\ \text{♁ } 365.15 \\ \text{♀ } 244.42 \end{array} \right\}$	be successively taken to consist of 1000 equal parts, the periods of the planet next below will contain of those parts in	$\left\{ \begin{array}{l} \text{♄ } 403 \\ \text{♃ } 159 \\ \text{♂ } 532 \\ \text{♀ } 615 \\ \text{♁ } 392 \end{array} \right\}$
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But if the distance of each planet in succession be taken to consist of 1000 equal parts, the distance of the next below will contain, according to Copernicus, in	$\left\{ \begin{array}{l} \text{♄ } 572 \\ \text{♃ } 290 \\ \text{♂ } 658 \\ \text{♀ } 719 \\ \text{♁ } 500 \end{array} \right\}$
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From this table he argued that to make the proportions agree, we must assume one of two things, "either that the moving intelligences of the planets are weakest in those which are farthest from the Sun, or that there is one moving intelligence in the Sun, the common centre forcing them all round, but those most violently which are nearest, and that it languishes in some sort, and grows weaker at the most distant, because of the remoteness and the attenuation of the virtue."

We stop here to insert a note added by Kepler to the later editions, and shall take advantage of the same interruption to warn the reader not to confound this notion of Kepler with the theory of a gravitating force towards the Sun, in the sense in which we now use those words. According to our theory, the effect of the presence of the Sun upon the planet is to pull it towards the

♄	D. Scr.	♄							
♄	10759.12	D. Scr.	♂						
♃	6159	4332.37	D. Scr.	♁					
♂	785	1282	686.59	D. Scr.	♀				
♁	1174	843	452	365.15	D. Scr.	♁			
♀	844	606	325	262.30	224.42	D. Scr.			
♁	434	312	167	135	115	87.55			

At the head of each vertical column is placed the real time (in days and sexagesimal parts) of the revolution of the

centre in a straight line, and the effect of the motion thus produced combined with the motion of the planet, which if undisturbed would be in a straight line inclined to the direction of the radius, is, that it describes a curve round the Sun. Kepler considered his planets as perfectly quiet and unwilling to move when left alone; and that this virtue supposed by him to proceed in every direction out of the Sun, swept them round, just as the sails of a windmill would carry round anything which became entangled in them. In other parts of his works Kepler mentions having speculated on a real attractive force in the centre; but as he knew that the planets are not always at the same distance from the Sun, and conceived erroneously, that to remove them from their least to their greatest distance a repulsive force must be supposed alternating with an attractive one, he laid aside this notion as improbable. In a note he acknowledges that when he wrote the passage just quoted, imbued as he then was with Scaliger's notions on moving intelligences, he literally believed, "that each planet was moved by a living spirit, but afterwards came to look on the moving cause as a corporeal though immaterial substance, something in the nature of light which is observed to diminish similarly at increased distances." He then proceeds as follows in the original text.

"Let us then assume, as is very probable, that motion is dispensed by the sun in the same manner as light. The proportion in which light emanating from a centre is diminished, is taught by optical writers: for there is the same quantity of light, or of the solar rays, in the small circles as in the large; and therefore, as it is more condensed in the former, more attenuated in the latter, a measure of the attenuation may be derived from the proportion of the circles themselves, both in the case of light and of the moving virtue. Therefore, by how much the orbit of Venus is greater than that of Mercury, in the same proportion will the motion of the latter be stronger, or more hurried, or more swift, or more powerful, or by whatever other word you like to express the fact, than that of the former. But a larger orbit would require a proportionably longer time of revolution, even though the moving force were the same. Hence it follows that the one cause of a greater distance of the planet from the Sun, produces a double effect in increasing the period,

and conversely the increase of the periods will be double the difference of the distances. Therefore, half the increment added to the shorter period ought to give the true proportion of the distances, so that the sum should represent the distance of the superior planet, on the same scale on which the shorter period represents the distance of the inferior one. For instance, the period of Mercury is nearly 88 days; that of Venus is 224 $\frac{1}{2}$, the difference is 136 $\frac{1}{2}$: half of this is 68 $\frac{1}{4}$, which, added to 88, gives 156 $\frac{1}{4}$. The mean distance of Venus ought, therefore, to be, in proportion to that of Mercury, as 156 $\frac{1}{4}$ to 88. If this be done with all the planets, we get the following results, taking successively, as before, the distance of each planet at 1000.

The distance in	4	574	But accord-	572
parts of which	3	274	ing to Co-	290
the distance of	4	694	pernicus	658
the next superior	2	762	they are	719
planet contains	2	563	respectively	500
1000, is at				

As you see, we have now got nearer the truth."

Finding that this theory of the rate of diminution would not bring him quite close to the result he desired to find, Kepler immediately imagined another. This latter occasioned him a great deal of perplexity, and affords another of the frequently recurring instances of the waste of time and ingenuity occasioned by his impetuous and precipitate temperament. Assuming the distance of any planet, as for instance of Mars, to be the unit of space, and the virtue at that distance to be the unit of force, he supposed that as many particles as the virtue at the Earth gained upon that of Mars, so many particles of distance did the Earth lose. He endeavoured to determine the respective positions of the planets upon this theory, by the rules of false position, but was much astonished at finding the same exactly as on his former hypothesis. The fact was, as he himself discovered, although not until after several years, that he had become confused in his calculation; and when half through the process, had retraced his steps so as of course to arrive again at the numbers from which he started, and which he had taken from his former results. This was the real secret of the identity of the two methods; and if, when he had taken the distance of Mars at 1000, instead of assuming the distance of the earth at 694, as he did, he had taken any other number, and operated upon it in the same manner, he would

have had the same reason for relying on the accuracy of his supposition. As it was, the result utterly confounded him; and he was obliged to leave it with the remark, that "the two theories are thus proved to be the same in fact, and only different in form; although how that can possibly be, I have never to this day been able to understand."—His perplexity was very reasonable; they are by no means the same; it was only his method of juggling with the figures which seemed to connect them.

Notwithstanding all its faults, the genius and unwearied perseverance displayed by Kepler in this book, immediately ranked him among astronomers of the first class; and he received the most flattering encomiums from many of the most celebrated; among others, from Galileo and Tycho Brahe, whose opinion he invited upon his performance. Galileo contented himself with praising in general terms the ingenuity and good faith which appeared so conspicuously in it. Tycho Brahe entered into a more detailed criticism of the work, and, as Kepler shrewdly remarked, showed how highly he thought of it by advising him to try to adapt something of the same kind to the Tychoonic system. Kepler also sent a copy of his book to the imperial astronomer, Raimar, with a complimentary letter, in which he exalted him above all other astronomers of the age. Raimar had surreptitiously acquired a notion of Tycho Brahe's theory, and published it as his own; and Tycho, in his letter, complained of Kepler's extravagant flattery. This drew a long apologetical reply from Kepler, in which he attributed the admiration he had expressed of Raimar to his own want of information at that time, having since met with many things in Euclid and Regiomontanus, which he then believed original in Raimar. With this explanation, Tycho professed himself perfectly satisfied.

CHAPTER II.

Kepler's Marriage—He joins Tycho Brahe at Prague—Is appointed Imperial Mathematician—Treatise on the New Star.

THE publication of this extraordinary book, early as it occurs in the history of Kepler's life, was yet preceded by his marriage. He had contemplated this step so early as 1592; but that suit having been broken off, he paid his ad-

resses, in 1596, to Barbara Muller von Muhleckh. This lady was already a widow for the second time, although two years younger than Kepler himself. On occasion of this alliance he was required to prove the nobility of his family, and the delay consequent upon the inquiry postponed the marriage till the following year. He soon became involved in difficulties in consequence of this inconsiderate engagement: his wife's fortune was less than he had been led to expect, and he became embroiled on that account with her relations. Still more serious inconvenience resulted to him from the troubled state in which the province of Styria was at that time, arising out of the disputes in Bohemia and the two great religious parties into which the empire was now divided, the one headed by Rodolph, the feeble minded emperor,—the other by Matthias, his ambitious and enterprising brother.

In the year following his marriage, he thought it prudent, on account of some opinions he had unadvisedly promulgated, (of what nature does not very distinctly appear,) to withdraw himself from Gratz into Hungary. Thence he transmitted several short treatises to his friend Zehentmaier, at Tubingen—"On the Magnet," "On the Cause of the Obliquity of the Ecliptic," and "On the Divine Wisdom, as shown in the Creation." Little is known of these works beyond the notice taken of them in Zehentmaier's answers. Kepler has himself told us, that his magnetic philosophy was built upon the investigations of Gilbert, of whom he always justly spoke with the greatest respect.

About the same time a more violent persecution had driven Tycho Brahe from his observatory of Uraniburg, in the little island of Huen, at the entrance of the Baltic. This had been bestowed on him by the munificence of Frederick I. of Denmark, who liberally furnished him with every means of prosecuting his astronomical observations. After Frederick's death, Tycho found himself unable to withstand the party which had constantly opposed him, and was forced, at a great loss and much inconvenience, to quit his favourite island. On the invitation of the emperor, Rudolph II., he then betook himself, after a short stay at Hamburg, to the castle of Benach, near Prague, which was assigned to him with an annual pension of three thousand florins, a truly munificent provision in those times and that country.

Kepler had been eager to see Tycho Brahe since the latter had intimated that his observations had led him to a more accurate determination of the eccentricities of the orbits of the planets. By help of this, Kepler hoped that his theory might be made to accord more nearly with the truth; and on learning that Tycho was in Bohemia, he immediately set out to visit him, and arrived at Prague in January, 1600. From thence he wrote a second letter to Tycho, not having received the answer to his former apology, again excusing himself for the part he had appeared to take with Raimar against him. Tycho replied immediately in the kindest manner, and begged he would repair to him directly:—"Come not as a stranger, but as a very welcome friend; come and share in my observations with such instruments as I have with me, and as a dearly beloved associate." During his stay of three or four months at Benach, it was settled that Tycho should apply to the emperor, to procure him the situation of assistant in the observatory. Kepler then returned to Gratz, having previously received an intimation, that he might do so in safety. The plan, as it had been arranged between them was, that a letter should be procured from the emperor to the states of Styria, requesting that Kepler might join Tycho Brahe for two years, and retain his salary during that time: a hundred florins were to be added annually by the emperor, on account of the greater dearth of living at Prague. But before everything was concluded, Kepler finally threw up his situation at Gratz, in consequence of new dissensions. Fearing that this would utterly put an end to his hopes of connecting himself with Tycho, he determined to revive his claims on the patronage of the Duke of Wirtemberg. With this view he entered into correspondence with Mästlin and some of his other friends at Tübingen, intending to prosecute his medical studies, and offer himself for the professorship of medicine in that university. He was dissuaded from this scheme by the pressing instances of Tycho, who undertook to exert himself in procuring a permanent settlement for him from the emperor, and assured him, even if that attempt should fail, that the language he had used when formerly inviting him to visit him at Hamburg, should not be forgotten. In consequence of this en-

couragement, Kepler abandoned his former scheme, and travelled again with his wife to Prague. He was detained a long time on the road by violent illness, and his money became entirely exhausted. On this he wrote complainingly to Tycho, that he was unable without assistance to travel even the short distance which still separated them, far less to await much longer the fulfilment of the promises held out to him.

By his subsequent admissions, it appears that for a considerable time he lived entirely on Tycho's bounty, and by way of return, he wrote an essay against Raimar, and against a Scotchman named Liddell, professor at Rostoch and Helmstadt, who, like Raimar, had appropriated to himself the credit of the Tycho's system. Kepler never adopted this theory, and indeed, as the question merely regarded priority of invention, there could be no occasion, in the discussion, for an examination of its principles.

This was followed by a transaction, not much to Kepler's credit, who in the course of the following year, and during a second absence from Prague, fancied that he had some reason to complain of Tycho's behaviour, and wrote him a violent letter, filled with reproaches and insults. Tycho appears to have behaved in this affair with great moderation: professing to be himself occupied with the marriage of his daughter, he gave the care of replying to Kepler's charges, to Ericksen, one of his assistants, who, in a very kind and temperate letter, pointed out to him the ingratitude of his behaviour, and the groundlessness of his dissatisfaction. His principal complaint seems to have been, that Tycho had not sufficiently supplied his wife with money during his absence. Ericksen's letter produced an immediate and entire change in Kepler's temper, and it is only from the humble recantation which he instantaneously offered that we learn the extent of his previous violence. "Most noble Tycho," these are the words of his letter, "how shall I enumerate or rightly estimate your benefits conferred on me! For two months you have liberally and gratuitously maintained me, and my whole family; you have provided for all my wishes; you have done me every possible kindness; you have communicated to me everything you hold most dear; no one, by word or deed, has intentionally injured me in anything: in short,

not to your children, your wife, or yourself have you shown more indulgence than to me. This being so, as I am anxious to put upon record, I cannot reflect without consternation that I should have been so given up by God to my own intemperance, as to shut my eyes on all these benefits; that, instead of modest and respectful gratitude, I should indulge for three weeks in continual moroseness towards all your family, in headlong passion, and the utmost insolence towards yourself, who possess so many claims on my veneration from your noble family, your extraordinary learning, and distinguished reputation. Whatever I have said or written against the person, the fame, the honour, and the learning of your excellency; or whatever, in any other way, I have injuriously spoken or written, (if they admit no other more favourable interpretation,) as to my grief I have spoken and written many things, and more than I can remember; all and everything I recant, and freely and honestly declare and profess to be groundless, false, and incapable of proof." Hoffmann, the president of the states of Styria, who had taken Kepler to Prague on his first visit, exerted himself to perfect the reconciliation, and this hasty quarrel was entirely passed over.

On Kepler's return to Prague, in September, 1601, he was presented to the Emperor by Tycho, and honoured with the title of Imperial Mathematician, on condition of assisting Tycho in his calculations. Kepler desired nothing more than this condition, since Tycho was at that time probably the only person in the world who possessed observations sufficient for the reform which he now began to meditate in the theory of astronomy. Rudolph appears to have valued both Tycho Brahe and Kepler as astrologers rather than astronomers; but although unable to appreciate rightly the importance of the task they undertook, of compiling a new set of astronomical tables founded upon Tycho's observations, yet his vanity was flattered with the prospect of his name being connected with such a work, and he made liberal promises to defray the expense of the new Rudolphine Tables. Tycho's principal assistant at this time was Longomontanus, who altered his name to this form, according to the prevalent fashion of giving to every name a Latin termination. Lomborg or Longbiorg was the name, not of his family, but of the village in Denmark, where he was

born, just as Müller was seldom called by any other name than Regiomontanus, from his native town Königsberg, as George Joachim Rheticus was so surnamed from Rhetia, the country of the Grisons, and as Kepler himself was sometimes called Leonmontanus, from Leonberg, where he passed his infancy. It was agreed between Longomontanus and Kepler, that in discussing Tycho's observations, the former should apply himself especially to the Moon, and the latter to Mars, on which planet, owing to its favourable position, Tycho was then particularly engaged. The nature of these labours will be explained when we come to speak of the celebrated book "On the Motions of Mars."

This arrangement was disturbed by the return of Longomontanus into Denmark, where he had been offered an astronomical professorship, and still more by the sudden death of Tycho Brahe himself in the following October. Kepler attended him during his illness, and after his death undertook to arrange some of his writings. But, in consequence of a misunderstanding between him and Tycho's family, the manuscripts were taken out of his hands; and when, soon afterwards, the book appeared, Kepler complained heavily that they had published, without his consent or knowledge, the notes and interlineations added by him for his own private guidance whilst preparing it for publication.

On Tycho's death, Kepler succeeded him as principal mathematician to the emperor; but although he was thus nominally provided with a liberal salary, it was almost always in arrear. The pecuniary embarrassments in which he constantly found himself involved, drove him to the resource of gaining a livelihood by casting nativities. His peculiar temperament rendered him not averse from such speculations, and he enjoyed considerable reputation in this line, and received ample remuneration for his predictions. But although he did not scruple, when consulted, to avail himself in this manner of the credulity of his contemporaries, he passed over few occasions in his works of protesting against the futility of this particular genethliac astrology. His own astrological creed was in a different strain, more singular, but not less extravagant. We shall defer entering into any details concerning it, till we come to treat of his book on Harmonics, in which he has collected and

recapitulated the substance of his scattered opinions on this strange subject.

His next works deserving notice are those published on occasion of the new star which shone out with great splendour in 1604, in the constellation Cassiopeia*. Immediately on its appearance, Kepler wrote a short account of it in German, marked with all the oddity which characterises most of his productions. We shall see enough of his astronomical calculations when we come to his book on Mars; the following passage will probably be found more amusing.

After comparing this star with that of 1572, and mentioning that many persons who had seen it maintained this to be the brighter of the two, since it was nearly twice the size of its nearest neighbour, Jupiter, he proceeds as follows:—"Yonder one chose for its appearance a time no way remarkable, and came into the world quite unexpectedly, like an enemy storming a town, and breaking into the market-place before the citizens are aware of his approach; but ours has come exactly in the year of which astrologers have written so much about the fiery trigon that happens in it†; just in the month in which (according to Cyprian) Mars comes up to a very perfect conjunction with the other two superior planets; just in the day when Mars has joined Jupiter, and just in the place where this conjunction has taken place. Therefore the apparition of this star is not like a secret hostile irruption, as was that one of 1572, but the spectacle of a public triumph, or the entry of a mighty potentate; when the couriers ride in some time before, to prepare his lodgings, and the crowd of young urchins begin to think the time over-long to wait: then roll in, one after another, the ammunition, and money, and baggage waggons, and presently the trampling of horse, and the rush of people from every side to the streets and windows; and when the crowd have gazed with their jaws all agape at the troops of knights; then at last, the trumpeters, and archers, and lackeys, so distinguish the person of the monarch, that there is no occasion to point him out, but every one cries out of his own accord—'Here we have him!'—What it may portend is hard to determine, and

thus much only is certain, that it comes to tell mankind either nothing at all, or high and weighty news, quite beyond human sense and understanding. It will have an important influence on political and social relations; not indeed by its own nature, but, as it were, accidentally through the disposition of mankind. First, it portends to the booksellers great disturbances, and tolerable gains; for almost every *Theologus*, *Philosophicus*, *Medicus*, and *Mathematicus*, or whoever else, having no laborious occupation intrusted to him, seeks his pleasure *in studiis*, will make particular remarks upon it, and will wish to bring these remarks to the light. Just so will others, learned and unlearned, wish to know its meaning, and they will buy the authors who profess to tell them. I mention these things merely by way of example, because, although thus much can be easily predicted without great skill, yet may it happen just as easily, and in the same manner, that the vulgar, or whoever else is of easy faith, or it may be, crazy, may wish to exalt himself into a great prophet; or it may even happen that some powerful lord, who has good foundation and beginning of great dignities, will be cheered on by this phenomenon to venture on some new scheme, just as if God had set up this star in the darkness merely to enlighten them."

It would hardly be supposed, from the tenor of this last passage, that the writer of it was not a determined enemy to astrological predictions of every description. In 1602 he had published a disputation, not now easily met with, "On the Principles of Astrology," in which it seems that he treated the professed astrologers with great severity. The essence of this book is probably contained in the second treatise on the new star, which he published in 1606*. In this volume he inveighs repeatedly against the vanity and worthlessness of ordinary astrology, declaring at the same time, that the professors of that art know that this judgment is pronounced by one well acquainted with its principles. "For if the vulgar are to pronounce who is the best astrologer, my reputation is known to be of the highest order; if they

* The copy of this work in the British Museum is Kepler's presentation copy to our James I. On the blank leaf, opposite the title-page, is the following inscription, apparently in the author's handwriting:—"Regi philosophanti, philosopho serviens, Platoni Diogenes, Britannias teneant, Præge stipem mendicams ab Alexandro, e dollo conductio, hoc suum philosophema misit et commendavit."

* See Life of Galileo, p. 16.

† The fiery trigon occurs about once in every 800 years, when Saturn, Jupiter, and Mars are in the three fiery signs, Aries, Leo, and Sagittarius.

prefer the judgment of the learned, they are already condemned. Whether they stand with me in the eyes of the populace, or I fall with them before the learned, in both cases I am in their ranks; I am on a level with them; I cannot be renounced."

The theory which Kepler proposed to substitute is intimated shortly in the following passage: "I maintain that the colours and aspects, and conjunctions of the planets, are impressed on the natures or faculties of sublunary things, and when they occur, that these are excited as well in forming as in moving the body over whose motion they preside. Now let no one conceive a prejudice that I am anxiously seeking to mend the deplorable and hopeless cause of astrology by far-fetched subtilties and miserable quibbling. I do not value it sufficiently, nor have I ever shunned having astrologers for my enemies. But a most unfailing experience (as far as can be hoped in natural phenomena) of the excitement of sublunary natures by the conjunctions and aspects of the planets, has instructed and compelled my unwilling belief."

After exhausting other topics suggested by this new star, he examines the different opinions on the cause of its appearance. Among others he mentions the Epicurean notion, that it was a fortuitous concourse of atoms, whose appearance in this form was merely one of the infinite number of ways in which, since the beginning of time, they have been combined. Having descanted for some time on this opinion, and declared himself altogether hostile to it, Kepler proceeds as follows:—"When I was a youth, with plenty of idle time on my hands, I was much taken with the vanity, of which some grown men are not ashamed, of making anagrams, by transposing the letters of my name, written in Greek, so as to make another sentence: out of *Ιωάννης Κεπλήρος* I made *Σειρήνων κάπηλος**; in Latin, out of *Joannes Keplerus* came *Serpens in akuleot*†. But not being satisfied with the meaning of these words, and being unable to make another, I trusted the thing to chance, and taking out of a pack of playing cards as many as there were letters in the name, I wrote one upon each, and then began to shuffle them, and at each shuffle to read them in the order they came, to see if any meaning came of it. Now, may all the Epicurean gods and goddesses confound

this same chance, which, although I spent a good deal of time over it, never showed me anything like sense even from a distance*. So I gave up my cards to the Epicurean eternity, to be carried away into infinity, and, it is said, they are still flying about there, in the utmost confusion among the atoms, and have never yet come to any meaning. I will tell these disputants, my opponents, not my own opinion, but my wife's. Yesterday, when weary with writing, and my mind quite dusty with considering these atoms, I was called to supper, and a salad I had asked for was set before me. It seems then, said I aloud, that if pewter dishes, leaves of lettuce, grains of salt, drops of water, vinegar, and oil, and slices of egg, had been flying about in the air from all eternity, it might at last happen by chance that there would come a salad. Yes, says my wife, but not so nice and well dressed as this of mine is."

CHAPTER III.

Kepler publishes his Supplement to Vitellion—Theory of Refraction.

DURING several years Kepler remained, as he himself forcibly expressed it, begging his bread from the emperor at Prague, and the splendour of his nominal income served only to increase his irritation, at the real neglect under which he nevertheless persevered in his labours. His family was increasing, and he had little wherewith to support them beyond the uncertain proceeds of his writings and nativities. His salary was charged partly on the states of Silesia, partly on the imperial treasury; but it was in vain that repeated orders were procured for the payment of the arrears due to him. The resources of the empire were drained by the constant demands of an engrossing war, and Kepler had not sufficient influence to enforce his claims against those who thought even the smallest sum bestowed upon him ill spent, in fostering profitless speculations. In consequence of this niggardiness, Kepler was forced to postpone the publication of the Rudolphine Tables, which he was engaged in constructing from his own and Tycho Brahe's observations, and applied himself to other works of a less costly description. Among these may be men-

* The tapster of the Sirens.

† A serpent in his sting.

* In one of his anonymous writings Kepler has anagrammatized his name, *Joannes Keplerus*, in a variety of other forms, probably selected from the luckiest of his shuffles:—" *Kleopas Herennius, Helenor Kapuensis, Raspinus Enkeleo, Kanones Pueries*."

tioned a "Treatise on Comets," written on occasion of one which appeared in 1607 : in this he suggests that they are planets moving in straight lines. The book published in 1604, which he entitles "A Supplement to Vitellion," may be considered as containing the first reasonable and consistent theory of optics, especially in that branch of it usually termed dioptrics, which relates to the theory of vision through transparent substances. In it was first explained the true use of the different parts of the eye, to the knowledge of which Baptista Porta had already approached very nearly, though he stopped short of the accurate truth. Kepler remarked the identity of the mechanism in the eye with that beautiful invention of Porta's, the camera obscura ; showing, that the light which falls from external objects on the eye is refracted through a transparent substance, called, from its form and composition, the crystalline lens, and makes a picture on the fine net-work of nerves, called the retina, which lies at the back of the eye. The manner in which the existence of this coloured picture on the retina causes to the individual the sensation of sight, belongs to a theory not purely physical ; and beyond this point Kepler did not attempt to go.

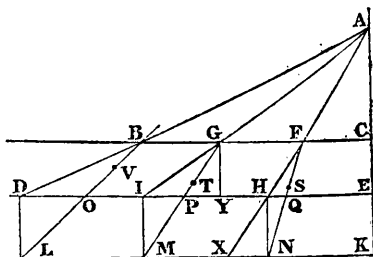
The direction into which rays of light (as they are usually called) are bent or refracted in passing through the air and other transparent substances or mediums, is discussed in this treatise at great length. Tycho Brahe had been the first astronomer who recognized the necessity of making some allowance on this account in the observed heights of the stars. A long controversy arose on this subject between Tycho Brahe and Rothman, the astronomer at Hesse Cassel, a man of unquestionable talent, but of odd and eccentric habits. Neither was altogether in the right, although Tycho had the advantage in the argument. He failed however to establish the true law of refraction, and Kepler has devoted a chapter to an examination of the same question. It is marked by precisely the same qualities as those appearing so conspicuously in his astronomical writings :—great ingenuity ; wonderful perseverance ; bad philosophy. That this may not be taken solely upon assertion, some samples of it are subjoined. The writings of the authors of this period are little read or known at the present day ; and it is only by copious extracts that any accurate notion can be formed of the nature and value of their labours,

The following tedious specimen of Kepler's mode of examining physical phenomena is advisedly selected to contrast with his astronomical researches : though the luck and consequently the fame that attended his divination were widely different on the two occasions, the method pursued was the same. After commenting on the points of difference between Rothman and Tycho Brahe, Kepler proceeds to enumerate his own endeavours to discover the law of refraction.

"I did not leave untried whether, by assuming a horizontal refraction according to the density of the medium, the rest would correspond with the sines of the distances from the vertical direction, but calculation proved that it was not so : and indeed there was no occasion to have tried it, for thus the refractions would increase according to the same law in all mediums, which is contradicted by experiment.

"The same kind of objection may be brought against the cause of refraction alleged by Alhazen and Vitellion. They say that the light seeks to be compensated for the loss sustained at the oblique impact ; so that in proportion as it is enfeebled by striking against the denser medium, in the same degree does it restore its energy by approaching the perpendicular, that it may strike the bottom of the denser medium with greater force ; for those impacts are most forcible which are direct. And they add some subtle notions, I know not what, how the motion of obliquely incident light is compounded of a motion perpendicular and a motion parallel to the dense surface, and that this compound motion is not destroyed, but only retarded by meeting the denser medium.

"I tried another way of measuring the refraction, which should include the density of the medium and the incidence :



for, since a denser medium is the cause of refraction, it seems to be the same thing as if we were to prolong the depth of the medium in which the rays are re-

fracted into as much space as would be filled by the denser medium under the force of the rarer one.

"Let A be the place of the light, B C the surface of the denser medium, D E its bottom. Let A B, A G, A F be rays falling obliquely, which would arrive at D, I, H, if the medium were uniform. But because it is denser, suppose the bottom to be depressed to K L, determined by this that there is as much of the denser matter contained in the space DC as of the rarer in LC: and thus, on the sinking of the whole bottom DE, the points D, I, H, E will descend vertically to L, M, N, K. Join the points B L, G M, F N, cutting D E in O, P, Q; the refracted rays will be A B O, A G P, A F Q."—"This method is refuted by experiment; it gives the refractions near the perpendicular A C too great in respect of those near the horizon. Whoever has leisure may verify this, either by calculation or compasses. It may be added that the reasoning itself is not very sure-footed, and, whilst seeking to measure other things, scarcely takes in and comprehends itself." This reflection must not be mistaken for the dawn of suspicion that his examination of philosophical questions began not altogether at the right end: it is merely an acknowledgment that he had not yet contrived a theory with which he was quite satisfied before it was disproved by experiment.

After some experience of Kepler's miraculous good fortune in seizing truths across the wildest and most absurd theories, it is not easy to keep clear of the opposite feeling of surprise whenever any of his extravagancies fail to discover to him some beautiful law of nature. But we must follow him as he plunges deeper in this unsuccessful inquiry; and the reader must remember, in order fully to appreciate this method of philosophizing, that it is almost certain that Kepler laboured upon every one of the gratuitous suppositions that he makes, until positive experiment satisfied him of their incorrectness.

"I go on to other methods. Since density is clearly connected with the cause of the refractions, and refraction itself seems a kind of compression of light, as it were, towards the perpendicular, it occurred to me to examine whether there was the same proportion between the mediums in respect of density and the parts of the bottom illuminated by the light, when let into a vessel, first empty, and afterwards filled with water.

This mode branches out into many: for the proportion may be imagined, either in the straight lines, as if one should say that the line E Q, illuminated by refraction, is to E H illuminated directly, as the density of the one medium is to that of the other—Or another may suppose the proportion to be between F C and F H—Or it may be conceived to exist among surfaces, or so that some power of E Q should be to some power of E H in this proportion, or the circles or similar figures described on them. In this manner the proportion of E Q to E P would be double that of E H to E I—Or the proportion may be conceived existing among the solidities of the pyramidal frustums F H E C, F Q E C—Or, since the proportion of the mediums involves a threefold consideration, since they have density in length, breadth, and thickness, I proceeded also to examine the cubic proportions among the lines E Q, E H.

"I also considered other lines. From any of the points of refraction as G, let a perpendicular G Y be dropped upon the bottom. It may become a question whether possibly the triangle I G Y, that is, the base I Y, is divided by the refracted ray G P, in the proportion of the densities of the mediums.

"I have put all these methods here together, because the same remark disproves them all. For, in whatever manner, whether as line, plane, or pyramid, E I observes a given proportion to E P, or the abbreviated line Y I to Y P, namely, the proportion of the mediums, it is sure that E I, the tangent of the distance of the point A from the vertex, will become infinite, and will, therefore, make E P or Y P, also infinite. Therefore, I G P, the angle of refraction, will be entirely lost; and, as it approaches the horizon, will gradually become less and less, which is contrary to experiment.

"I tried again whether the images are equally removed from their points of refraction, and whether the ratio of the densities measures the least distance. For instance, supposing E to be the image, C the surface of the water, K the bottom, and C E to C K in the proportion of the densities of the mediums. Now, let F, G, B, be three other points of refraction and images at S, T, V, and let C E be equal to F S, G T, and B V. But according to this rule an image E would still be somewhat raised in the perpendicular A K, which is contrary to experiment, not to mention other

contradictions. Thirdly, whether the proportion of the mediums holds between FH and FX, supposing H to be the place of the image? Not at all. For so, CE would be in the same proportion to CK, so that the height of the image would always be the same, which we have just refuted. Fourthly, whether the raising of the image at E is to the raising at H, as CE to FH? Not in the least; for so the images either would never begin to be raised, or, having once begun, would at last be infinitely raised, because FH at last becomes infinite. Fifthly, whether the images rise in proportion to the sines of the inclinations? Not at all; for so the proportion of ascent would be the same in all mediums. Sixthly, are then the images raised at first, and in perpendicular radiation, according to the proportion of the mediums, and do they subsequently rise more and more according to the sines of the inclinations? For so the proportion would be compound, and would become different in different mediums. There is nothing in it: for the calculation disagreed with experiment. And generally it is in vain to have regard to the image or the place of the image, for that very reason, that it is imaginary. For there is no connexion between the density of the medium or any real quality or refraction of the light, and an accident of vision, by an error of which the image happens.

"Up to this point, therefore, I had followed a nearly blind mode of inquiry, and had trusted to good fortune; but now I opened the other eye, and hit upon a sure method, for I pondered the fact, that the image of a thing seen under water approaches closely to the true ratio of the refraction, and almost measures it; that it is low if the thing is viewed directly from above; that by degrees it rises as the eye passes towards the horizon of the water. Yet, on the other hand, the reason alleged above, proves that the measure is not to be sought in the image, because the image is not a thing actually existing, but arises from a deception of vision which is purely accidental. By a comparison of these conflicting arguments, it occurred to me at length, to seek the causes themselves of the existence of the image under water, and in these causes the measure of the refractions. This opinion was strengthened in me by seeing that opticians had not rightly pointed out the cause of the image which appears both

in mirrors and in water. And this was the origin of that labour which I undertook in the third chapter. Nor, indeed, was that labour trifling, whilst hunting down false opinions of all sorts among the principles, in a matter rendered so intricate by the false traditions of optical writers; whilst striking out half a dozen different paths, and beginning anew the whole business. How often did it happen that a rash confidence made me look upon that which I sought with such ardour, as at length discovered!

"At length I cut this worse than Gordian knot of catoptrics by analogy alone, by considering what happens in mirrors, and what must happen analogically in water. In mirrors, the image appears at a distance from the real place of the object, not being itself material, but produced solely by reflection at the polished surface. Whence it followed in water also, that the images rise and approach the surface, not according to the law of the greater or less density in the water, as the view is less or more oblique, but solely because of the refraction of the ray of light passing from the object to the eye. On which assumption, it is plain that every attempt I had hitherto made to measure refractions by the image, and its elevation, must fall to the ground. And this became more evident when I discovered the true reason why the image is in the same perpendicular line with the object both in mirrors and in dense mediums. When I had succeeded thus far by analogy in this most difficult investigation, as to the place of the image, I began to follow out the analogy further, led on by the strong desire of measuring refraction. For I wished to get hold of some measure of some sort, no matter how blindly, having no fear but that so soon as the measure should be accurately known, the cause would plainly appear. I went to work as follows. In convex mirrors the image is diminished, and just so in rarer mediums; in denser mediums it is magnified, as in concave mirrors. In convex mirrors the central parts of the image approach, and recede in concave farther than towards the circumference; the same thing happens in different mediums, so that in water the bottom appears depressed, and the surrounding parts elevated. Hence it appears that a denser medium corresponds with a concave reflecting surface, and a rarer one with a convex one: it was clear, at the same time, that the plane surface of the

water affects a property of curvature. I was, therefore, to excogitate causes consistent with its having this effect of curvature, and to see if a reason could be given, why the parts of the water surrounding the incident perpendicular should represent a greater density than the parts just under the perpendicular. And so the thing came round again to my former attempts, which being refuted by reason and experiment, I was forced to abandon the search after a cause. I then proceeded to measurements."

Kepler then endeavoured to connect his measurements of different quantities of refraction with the conic sections, and was tolerably well pleased with some of his results. They were however not entirely satisfactory, on which he breaks off with the following sentence: "Now, reader, you and I have been detained sufficiently long whilst I have been attempting to collect into one faggot the measure of different refractions: I acknowledge that the cause cannot be connected with this mode of measurement: for what is there in common between refractions made at the plane surfaces of transparent mediums, and mixtilinear conic sections? Wherefore, *quod Deus bene vortat*, we will now have had enough of the causes of this measure; and although, even now, we are perhaps erring something from the truth, yet it is better, by working on, to show our industry, than our laziness by neglect."

Notwithstanding the great length of this extract, we must add the concluding paragraph of the Chapter, directed, as we are told in the margin, against the "Tychnomasticks":—

"I know how many blind men at this day dispute about colours, and how they long for some one to give some assistance by argument to their rash insults of Tycho, and attacks upon this whole matter of refractions; who, if they had kept to themselves their puerile errors and naked ignorance, might have escaped censure; for that may happen to many great men. But since they venture forth publicly, and with thick books and sounding titles, lay baits for the applause of the unwary, (for now-a-days there is more danger from the abundance of bad books, than heretofore from the lack of good ones,) therefore let them know that a time is set for them publicly to amend their own errors. If they longer delay doing this, it shall be open, either to me or any other, to do to these unhappy meddlers in geometry as they have taken upon themselves to do with respect to men

of the highest reputation. And although this labour will be despicable, from the vile nature of the follies against which it will be directed, yet so much more necessary than that which they have undertaken against others, as he is a greater public nuisance, who endeavours to slander good and necessary inventions, than he who fancies he has found what is impossible to discover. Meanwhile, let them cease to plume themselves on the silence which is another word for their own obscurity."

Although Kepler failed, as we have seen, to detect the true law of refraction, (which was discovered some years later by Willibrord Snell, a Flemish mathematician,) there are many things well deserving notice in his investigations. He remarked, that the quantity of refraction would alter, if the height of the atmosphere should vary; and also, that it would be different at different temperatures. Both these sources of variation are now constantly taken into account, the barometer and thermometer giving exact indications of these changes. There is also a very curious passage in one of his letters to Bregger, written in 1605, on the subject of the colours in the rainbow. It is in these words:—"Since every one sees a different rainbow, it is possible that some one may see a rainbow in the very place of my sight. In this case, the medium is coloured at the place of my vision, to which the solar ray comes to me through water, rain, or aqueous vapours. For the rainbow is seen when the sun is shining between rain, that is to say, when the sun also is visible. Why then do I not see the sun green, yellow, red, and blue, if vision takes place according to the mode of illumination? I will say something for you to attack or examine. The sun's rays are not coloured, except with a definite quantity of refraction. Whether you are in the optical chamber, or standing opposite glass globes, or walking in the morning dew, everywhere it is obvious that a certain and definite angle is observed, under which, when seen in dew, in glass, in water, the sun's splendour appears coloured, and under no other angle. There is no colouring by mere reflexion, without the refraction of a denser medium." How closely does Kepler appear, in this passage, to approach the discovery which forms not the least part of Newton's fame!

We also find in this work a defence of the opinion that the planets are lumi

nous of themselves ; on the ground that the inferior planets would, on the contrary supposition, display phases like those of the moon when passing between us and the sun. The use of the telescope was not then known ; and, when some years later the form of the disk of the planets was more clearly defined with their assistance, Kepler had the satisfaction of finding his assertions verified by the discoveries of Galileo, that these changes do actually take place. In another of his speculations, connected with the same subject, he was less fortunate. In 1607 a black spot appeared on the face of sun, such as may almost always be seen with the assistance of the telescope, although they are seldom large enough to be visible to the unassisted eye. Kepler saw it for a short time, and mistook it for the planet Mercury, and with his usual precipitancy hastened to publish an account of his observation of this rare phenomenon. A few years later, Galileo discovered with his glasses, a great number of similar spots ; and Kepler immediately retracted the opinion announced in his treatise, and acknowledged his belief that previous accounts of the same occurrence which he had seen in old authors, and which he had found great difficulty in reconciling with his more accurate knowledge of the motions of Mercury, were to be referred to a like mistake. On this occasion of the invention of the telescope, Kepler's candour and real love of truth appeared in a most favourable light. Disregarding entirely the disagreeable necessity, in consequence of the discoveries of this new instrument, of retracting several opinions which he had maintained with considerable warmth, he ranged himself at once on the side of Galileo, in opposition to the bitter and determined hostility evinced by most of those whose theories were endangered by the new views thus offered of the heavens. Kepler's quarrel with his pupil, Horkey, on this account, has been mentioned in the "Life of Galileo ;" and this is only a selected instance from the numerous occasions on which he espoused the same unpopular side of the argument. He published a dissertation to accompany Galileo's "Intelligencer of the Stars," in which he warmly expressed his admiration of that illustrious inquirer into nature. His conduct in this respect was the more remarkable, as some of his most intimate friends had taken a very opposite view of Galileo's merit, and seem to have laboured much to disturb their mutual regard ; Mästlin especially, Kepler's

early instructor, seldom mentioned to him the name of Galileo, without some contemptuous expression of dislike. These statements have rather disturbed the chronological order of the account of Kepler's works. We now return to the year 1609, in which he published his great and extraordinary book, "On the Motions of Mars ;" a work which holds the intermediate place, and is in truth the connecting link, between the discoveries of Copernicus and Newton.

CHAPTER IV.

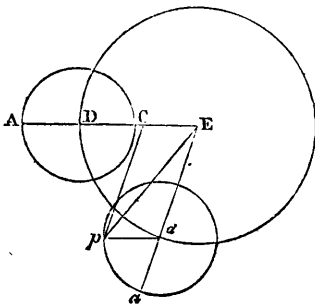
Sketch of the Astronomical Theories before Kepler.

KEPLER had begun to labour upon these commentaries from the moment when he first made Tycho's acquaintance ; and it is on this work that his reputation should be made mainly to rest. It is marked in many places with his characteristic precipitancy, and indeed one of the most important discoveries announced in it (famous among astronomers by the name of the Equable Description of Areas) was blundered upon by a lucky compensation of errors, of the nature of which Kepler remained ignorant to the very last. Yet there is more of the inductive method in this than in any of his other publications ; and the unwearied perseverance with which he exhausted years in hunting down his often renewed theories, till at length he seemed to arrive at the true one, almost by having previously disproved every other, excites a feeling of astonishment nearly approaching to awe. It is wonderful how he contrived to retain his vivacity and creative fancy amongst the clouds of figures which he conjured up round him ; for the slightest hint or shade of probability was sufficient to plunge him into the midst of the most laborious computations. He was by no means an accurate calculator, according to the following character which he has given of himself :—"Something of these delays must be attributed to my own temper, for *non omnia possumus omnes*, and I am totally unable to observe any order ; what I do suddenly, I do confusedly, and if I produce any thing well arranged, it has been done ten times over. Sometimes an error of calculation committed by hurry, delays me a great length of time. I could indeed publish an infinity of things, for though my reading is confined, my imagination is abundant, but I grow dissatisfied with such confusion : I get disgusted and out of humour, and either throw them away, or put them aside to

be looked at again ; or, in other words, to be written again, for that is generally the end of it. I entreat you, my friends, not to condemn me for ever to grind in the mill of mathematical calculations : allow me some time for philosophical speculations, my only delight."

He was very seldom able to afford the expense of maintaining an assistant, and was forced to go through most of the drudgery of his calculations by himself ; and the most confirmed and merest arithmetician could not have toiled more doggedly than Kepler did in the work of which we are about to speak.

In order that the language of his astronomy may be understood, it is necessary to mention briefly some of the older theories. When it had been discovered that the planets did not move regularly round the earth, which was supposed to be fixed in the centre of the world, a mechanism was contrived by which it was thought that the apparent irregularity could be represented, and yet the principle of uniform motion, which was adhered to with superstitious reverence, might be preserved. This, in its simplest form, consisted in supposing the planet to move uniformly in a small circle, called an *epicycle*, the centre of which moved with an equal angular motion in the opposite direction round the earth*. The circle Dd , described by D , the centre of the epicycle, was called the *deferent*. For instance, if the planet was supposed to be at A when the centre of the epicycle was at D , its



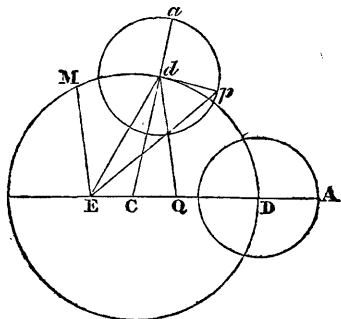
position, when the centre of the epicycle had removed to d , would be at p , found by drawing dp parallel to DA . Thus, the angle adp , measuring the motion of the planet in its epicycle, would be equal

* By "the opposite direction" is meant, that while the motion in the circumference of one circle appeared, as viewed from its centre, to be from left to right, the other, viewed from its centre, appeared from right to left. This must be understood whenever these or similar expressions are repeated.

to DEd , the angle described by the centre of the epicycle in the deferent. The angle pEd between Ep , the direction in which a planet so moving would be seen from the earth, supposed to be at E , and Ed the direction in which it would have been seen had it been moving in the centre of the deferent, was called the equation of the orbit, the word equation, in the language of astronomy, signifying what must be added or taken from an irregularly varying quantity to make it vary uniformly.

As the accuracy of observations increased, minor irregularities were discovered, which were attempted to be accounted for by making a second deferent of the epicycle, and making the centre of a second epicycle revolve in the circumference of the first, and so on, or else by supposing the revolution in the epicycle not to be completed in exactly the time in which its centre is carried round the deferent. Hipparchus was the first to make a remark by which the geometrical representation of these inequalities was considerably simplified. In fact, if EC be taken equal to pd , Cd will be a parallelogram, and consequently Cp equal to Ed , so that the machinery of the first deferent and epicycle amounts to supposing that the planet revolves uniformly in a circle round the point C , not coincident with the place of the earth. This was consequently called the excentric theory, in opposition to the former or concentric one, and was received as a great improvement. As the point d is not represented by this construction, the equation to the orbit was measured by the angle CpE , which is equal to pEd . It is not necessary to give any account of the manner in which the old astronomers determined the magnitudes and positions of these orbits, either in the concentric or excentric theory, the present object being little more than to explain the meaning of the terms it will be necessary to use in describing Kepler's investigations.

To explain the irregularities observed in the other planets, it became necessary to introduce another hypothesis, in adopting which the severity of the principle of uniform motion was somewhat relaxed. The machinery consisted partly of an excentric deferent round E , the earth, and on it an epicycle, in which the planet revolved uniformly ; but the centre of the epicycle, instead of revolving uniformly round C , the centre of the deferent,



as it had hitherto been made to do, was supposed to move in its circumference with an uniform angular motion round a third point, Q; the necessary effect of which supposition was, that the linear motion of the centre of the epicycle ceased to be uniform. There were thus three points to be considered within the deferent; E, the place of the earth; C, the centre of the deferent, and sometimes called the centre of the orbit; and Q, called the centre of the equant, because, if any circle were described round Q, the planet would appear to a spectator at Q, to be moving equably in it. It was long uncertain what situation should be assigned to the centre of the equant, so as best to represent the irregularities to a spectator on the earth, until Ptolemy decided on placing it (in every case but that of Mercury, the observations on which were very doubtful) so that C, the centre of the orbit, lay just half way in the straight line, joining Q, the centre of equable motion, and E, the place of the earth. This is the famous principle, known by the name of the bisection of the excentricity.

The first equation required for the planet's motion was thus supposed to be due to the displacement of E, the earth, from Q, the centre of uniform motion, which was called the excentricity of the equant: it might be represented by the angle dEM , drawing EM parallel to Qd ; for clearly M would have been the place of the centre of the epicycle at the end of a time proportional to Dd , had it moved with an equable angular motion round E instead of Q. This angle dEM , or its equal EdQ , was called the equation of the centre (*i. e.* of the centre of the epicycle); and is clearly greater than if EQ , the excentricity of the equant, had been no greater than EC , called the excentricity of the orbit. The second equation was measured by the angle subtended at E by d , the centre of the epicycle, and p the

planet's place in its circumference: it was called indifferently the equation of the orbit, or of the argument. In order to account for the apparent stations and retrogradations of the planets, it became necessary to suppose that many revolutions in the latter were completed during one of the former. The variations of latitude of the planets were exhibited by supposing not only that the planes of their deferents were oblique to the plane of the ecliptic, and that the plane of the epicycle was also oblique to that of the deferent, but that the inclination of the two latter was continually changing, although Kepler doubts whether this latter complication was admitted by Ptolemy. In the inferior planets, it was even thought necessary to give to the plane of the epicycle two oscillatory motions on axes at right angles to each other.

The astronomers at this period were much struck with a remarkable connexion between the revolutions of the superior planets in their epicycles, and the apparent motion of the sun; for when in conjunction with the sun, as seen from the earth, they were always found to be in the apogee, or point of greatest distance from the earth, of their epicycle; and when in opposition to the Sun, they were as regularly in the perigee, or point of nearest approach of the epicycle. This correspondence between two phenomena, which, according to the old astronomy, were entirely unconnected, was very perplexing, and it seems to have been one of the facts which led Copernicus to substitute the theory of the earth's motion round the sun.

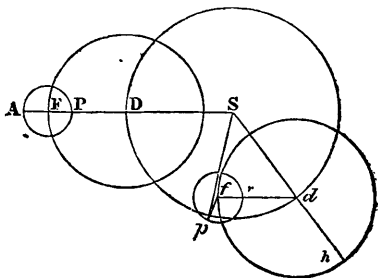
As time wore on, the superstructure of excentrics and epicycles, which had been strained into representing the appearances of the heavens at a particular moment, grew out of shape, and the natural consequence of such an artificial system was, that it became next to impossible to foresee what ruin might be produced in a remote part of it by any attempt to repair the derangements and refit the parts to the changes, as they began to be remarked in any particular point. In the ninth century of our era, Ptolemy's tables were already useless, and all those that were contrived with unceasing toil to supply their place, rapidly became as unserviceable as they. Still the triumph of genius was seen in the veneration that continued to be paid to the assumptions of Ptolemy and Hipparchus; and even when the great reformer, Coper-

nicus, appeared, he did not for a long time intend to do more than slightly modify their principles. That which he found difficult in the Ptolemaic system, was none of the inconveniences by which, since the establishment of the new system, it has become common to demonstrate the inferiority of the old one; it was the displacement of the centre of the equant from the centre of the orbit that principally indisposed him against it, and led him to endeavour to represent the appearances by some other combinations of really uniform circular motions.

There was an old system, called the Egyptian, according to which Saturn, Jupiter, Mars, and the Sun circulated round the earth, the sun carrying with it, as two moons or satellites, the other two planets, Venus and Mercury. This system had never entirely lost credit: it had been maintained in the fifth century by Martianus Capella*, and indeed it was almost sanctioned, though not formally taught, by Ptolemy himself, when he made the mean motion of the sun the same as that of the centres of the epicycles of both these planets. The remark which had also been made by the old astronomers, of the connexion between the motion of the sun and the revolutions of the superior planets in their epicycles, led him straight to the expectation that he might, perhaps, produce the uniformity he sought by extending the Egyptian system to these also, and this appears to have been the shape in which his reform was originally projected. It was already allowed that the centre of the orbits of all the planets was not coincident with the earth, but removed from it by the space *EC*. This first change merely made *EC* the same for all the planets, and equal to the mean distance of the earth from the sun. This system afterwards acquired great celebrity through its adoption by Tycho Brahe, who believed it originated with himself. It might perhaps have been at this period of his researches, that Copernicus was struck with the passages in the Latin and Greek authors, to which he refers as testifying the existence of an old belief in the motion of the earth round the sun. He immediately recognised how much this alteration would further his principles of uniformity, by referring all the

planetary motions to one centre, and did not hesitate to embrace it. The idea of explaining the daily and principal apparent motions of the heavenly bodies by the revolution of the earth on its axis, would be the concluding change, and became almost a necessary consequence of his previous improvements, as it was manifestly at variance with his principles to give to all the planets and starry worlds a rapid daily motion round the centre of the earth, now that the latter was removed from its former supposed post in the centre of the universe, and was itself carried with an annual motion round another fixed point.

The reader would, however, form an inaccurate notion of the system of Copernicus, if he supposed that it comprised no more than the theory that each planet, including the earth among them, revolved in a simple circular orbit round the sun. Copernicus was too well acquainted with the motions of the heavenly bodies, not to be aware that such orbits would not accurately represent them; the motion he attributed to the earth round the sun, was at first merely intended to account for those which were called the second inequalities of the planets, according to which they appear one while to move forwards, then backwards, and at intermediate periods, stationary, and which thenceforward were also called the optical equations, as being merely an optical illusion. With regard to what were called the first inequalities, or physical equations, arising from a real inequality of motion, he still retained the machinery of the deferent and epicycle; and all the alteration he attempted in the orbits of the superior planets was an extension of the concentric theory to supply the place of the equant, which he considered the blot of the system. His theory for this purpose is shown in the accompanying diagram, where *S* represents the sun,



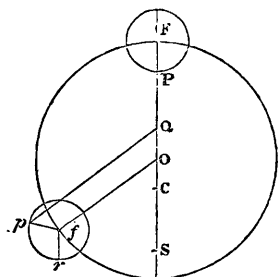
Dd, the deferent or mean orbit of the

* *Venus Mercuriusque, licet ortus occasusque quotidianos ostendunt, tamen eorum circuli terras omnino non ambiunt, sed circa solem laxiore ambitu circulantur. Denique circulorum suorum centron in sole constituunt.*—*De Nuptiis Philologiae et Mercurii. Vicentiae. 1499.*

planet, on which revolves the centre of the great epicycle, whose radius, DF , was taken at $\frac{1}{4}$ of Ptolemy's excentricity of the equant; and round the circumference of this revolved, in the opposite direction, the centre of the little epicycle, whose radius, FP , was made equal to the remaining $\frac{1}{4}$ of the excentricity of the equant.

The planet P revolved in the circumference of the little epicycle, in the same direction with the centre of the great epicycle in the circumference of the deferent, but with a double angular velocity. The planet was supposed to be in the perigee of the little epicycle, when its centre was in the apogee of the greater; and whilst, for instance, D moved equably through the angle DSd , F moved through $hdf = DSd$, and P through $rpf = 2DSd$.

It is easy to show that this construction gives nearly the same result as Ptolemy's; for the deferent and great epicycle have been already shown exactly equivalent to an excentric circle round S , and indeed Copernicus latterly so represented it: the effect of his construction, as given above, may therefore be reproduced in the following simpler form, in which only the smaller epicycle is retained:



In this construction, the place of the planet is found at the end of any time proportional to Ff , by drawing fr parallel to SF , and taking $rpf = 2FOf$. Hence it is plain, if we take OQ , equal to FP , (already assumed equal to $\frac{1}{4}$ of Ptolemy's excentricity of the equant,) since SO is equal to $\frac{1}{4}$ of the same, that SQ is the whole of Ptolemy's excentricity of the equant; and therefore, that Q is the position of the centre of his equant. It is also plain if we join Qp , since $rpf = 2FOf$, and $oQ = fp$, that pQ is parallel to fo , and, therefore, pQP is proportional to the time; so that the planet moves uniformly about the same point Q , as in Ptolemy's theory; and if we bisect SQ

in C , which is the position of the centre of Ptolemy's deferent, the planet will, according to Copernicus, move very nearly, though not exactly, in the same circle, whose radius is CP , as that given by the simple excentric theory.

The explanation offered by Copernicus, of the motions of the inferior planets, differed again in form from that of the others. He here introduced what was called a *hypocycle*, which, in fact, was nothing but a deferent not including the sun, round which the centre of the orbit revolved. An epicycle in addition to the hypocycle was introduced into Mercury's orbit. In this epicycle he was not supposed to revolve, but to librate, or move up and down in its diameter. Copernicus had recourse to this complication to satisfy an erroneous assertion of Ptolemy with regard to some of Mercury's inequalities. He also retained the oscillatory motions ascribed by Ptolemy to the planes of the epicycles, in order to explain the unequal latitudes observed at the same distance from the nodes, or intersections of the orbit of the planet with the ecliptic. Into this intricacy, also, he was led by placing too much confidence in Ptolemy's observations, which he was unable to satisfy by an unvarying obliquity. Other very important errors, such as his belief that the line of nodes always coincided with the line of apsides, or places of greatest and least distance from the central body, (whereas, at that time, in the case of Mars, for instance, they were nearly 90° asunder,) prevented him from accurately representing many of the celestial phenomena.

These brief details may serve to show that the adoption or rejection of the theory of Copernicus was not altogether so simple a question as sometimes it may have been considered. It is, however, not a little remarkable, while it is strongly illustrative of the spirit of the times, that these very intricacies, with which Kepler's theories have enabled us to dispense, were the only parts of the system of Copernicus that were at first received with approbation. His theory of Mercury, especially, was considered a masterpiece of subtle invention. Owing to his dread of the unfavourable judgment he anticipated on the main principles of his system, his work remained unpublished during forty years, and was at last given to the world only just in time to allow Copernicus to receive the first copy of it a few hours before his death.

CHAPTER V.

Account of the Commentaries on the motions of Mars—Discovery of the Law of the equable description of Areas, and of Elliptic Orbits.

WE may now proceed to examine Kepler's innovations, but it would be doing injustice to one of the brightest points of his character, not to preface them by his own animated exhortation to his readers. "If any one be too dull to comprehend the science of astronomy, or too feeble-minded to believe in Copernicus without prejudice to his piety, my advice to such a one is, that he should quit the astronomical schools, and condemning, if he has a mind, any or all of the theories of philosophers, let him look to his own affairs, and leaving this worldly travail, let him go home and plough his fields: and as often as he lifts up to this goodly heaven those eyes with which alone he is able to see, let him pour out his heart in praises and thanksgiving to God the Creator; and let him not fear but he is offering a worship not less acceptable than his to whom God has granted to see yet more clearly with the eyes of his mind, and who both can and will praise his God for what he has so discovered."

Kepler did not by any means underrate the importance of his labours, as is sufficiently shewn by the sort of colloquial motto which he prefixed to his work. It consists in the first instance of an extract from the writings of the celebrated and unfortunate Peter Ramus. This distinguished philosopher was professor of mathematics in Paris, and in the passage in question, after calling on his contemporaries to turn their thoughts towards the establishment of a system of Astronomy unassisted by any hypothesis, he promised as an additional inducement to vacate his own chair in favour of any one who should succeed in this object. Ramus perished in the massacre of St. Bartholomew, and Kepler apostrophizes him as follows:—"It is well, Ramus, that you have forfeited your pledge, by quitting your life and professorship together: for if you still held it, I would certainly claim it as of right belonging to me on account of this work, as I could convince you even with your own logic." It was rather bold in Kepler to assert his claim to a reward held out for a theory resting on no hypothesis, by right of a work filled with hypotheses of the most startling description; but of

the vast importance of this book there can be no doubt; and throughout the many wild and eccentric ideas to which we are introduced in the course of it, it is fit always to bear in mind that they form part of a work which is almost the basis of modern Astronomy."

The introduction contains a curious criticism of the commonly-received theory of gravity, accompanied with a declaration of Kepler's own opinions on the same subject. Some of the most remarkable passages in it have been already quoted in the life of Galileo; but, nevertheless, they are too important to Kepler's reputation to be omitted here, containing as they do a distinct and positive enunciation of the law of universal gravitation. It does not appear, however, that Kepler estimated rightly the importance of the theory here traced out by him, since on every other occasion he advocated principles with which it is scarcely reconcilable. The discussion is introduced in the following terms:—

"The motion of heavy bodies hinders many from believing that the earth is moved by an animal motion, or rather a magnetic one. Let such consider the following propositions. A mathematical point, whether the centre of the universe or not, has no power, either effectively or objectively, to move heavy bodies to approach it. Let physicians prove if they can, that such power can be possessed by a point, which neither is a body, nor is conceived unless by relation alone. It is impossible that the form* of a stone should, by moving its own body, seek a mathematical point, or in other words, the centre of the universe, without regard of the body in which that point exists. Let physicians prove if they can, that natural things have any sympathy with that which is nothing. Neither do heavy bodies tend to the centre of the universe by reason that they are avoiding the extremities of the round universe; for their distance from the centre is insensible, in proportion to their distance from the extremities of the universe. And what reason could there be for this hatred? How strong, how wise must those heavy bodies be, to be able to escape so carefully from an enemy lying on all sides of

* It is not very easy to carry the understanding aright among these Aristotelian ideas. Many at the present day might think they understood better what is meant, if for "form" had been written "nature."

them: what activity in the extremities of the world to press their enemy so closely! Neither are heavy bodies driven into the centre by the whirling of the first moveable, as happens in revolving water. For if we assume such a motion, either it would not be continued down to us, or otherwise we should feel it, and be carried away with it, and the earth also with us; nay, rather, we should be hurried away first, and the earth would follow; all which conclusions are allowed by our opponents to be absurd. It is therefore plain that the vulgar theory of gravity is erroneous.

The true theory of gravity is founded on the following axioms:—Every corporeal substance, so far forth as it is corporeal, has a natural fitness for resting in every place where it may be situated by itself beyond the sphere of influence of a body cognate with it. Gravity is a mutual affection between cognate bodies towards union or conjunction (similar in kind to the magnetic virtue), so that the earth attracts a stone much rather than the stone seeks the earth. Heavy bodies (if we begin by assuming the earth to be in the centre of the world) are not carried to the centre of the world in its quality of centre of the world, but as to the centre of a cognate round body, namely, the earth; so that wheresoever the earth may be placed, or whithersoever it may be carried by its animal faculty, heavy bodies will always be carried towards it. If the earth were not round, heavy bodies would not tend from every side in a straight line towards the centre of the earth, but to different points from different sides. If two stones were placed in any part of the world near each other, and beyond the sphere of influence of a third cognate body, these stones, like two magnetic needles, would come together in the intermediate point, each approaching the other by a space proportional to the comparative mass of the other. If the moon and earth were not retained in their orbits by their animal force or some other equivalent, the earth would mount to the moon by a fifty-fourth part of their distance, and the moon fall towards the earth through the other fifty-three parts and they would there meet; assuming however that the substance of both is of the same density. If the earth should cease to attract its waters to itself, all the waters of the sea would be raised and would flow to the body of the moon. The sphere of the at-

tractive virtue which is in the moon extends as far as the earth, and entices up the waters; but as the moon flies rapidly across the zenith, and the waters cannot follow so quickly, a flow of the ocean is occasioned in the torrid zone towards the westward. If the attractive virtue of the moon extends as far as the earth, it follows with greater reason that the attractive virtue of the earth extends as far as the moon, and much farther; and in short, nothing which consists of earthly substance any how constituted, although thrown up to any height, can ever escape the powerful operation of this attractive virtue. Nothing which consists of corporeal matter is absolutely light, but that is comparatively lighter which is rarer, either by its own nature, or by accidental heat. And it is not to be thought that light bodies are escaping to the surface of the universe while they are carried upwards, or that they are not attracted by the earth. They are attracted, but in a less degree, and so are driven outwards by the heavy bodies; which being done, they stop, and are kept by the earth in their own place. But although the attractive virtue of the earth extends upwards, as has been said, so very far, yet if any stone should be at a distance great enough to become sensible, compared with the earth's diameter, it is true that on the motion of the earth such a stone would not follow altogether; its own force of resistance would be combined with the attractive force of the earth, and thus it would extricate itself in some degree from the motion of the earth."

Who, after perusing such passages in the works of an author, whose writings were in the hands of every student of astronomy, can believe that Newton waited for the fall of an apple to set him thinking for the first time on the theory which has immortalized his name? An apple may have fallen, and Newton may have seen it; but such speculations as those which it is asserted to have been the cause of originating in him had been long familiar to the thoughts of every one in Europe pretending to the name of natural philosopher.

As Kepler always professed to have derived his notion of a magnetic attraction among the planetary bodies from the writings of Gilbert, it may be worth while to insert here an extract from the "New Philosophy" of that author, to show in what form he presented a similar theory of the tides, which affords the

most striking illustration of that attraction. This work was not published till the middle of the seventeenth century, but a knowledge of its contents may, in several instances, be traced back to the period in which it was written :—

“There are two primary causes of the motion of the seas—the moon, and the diurnal revolution. The moon does not act on the seas by its rays or its light. How then? Certainly by the common effort of the bodies, and (to explain it by something similar) by their magnetic attraction. It should be known, in the first place, that the whole quantity of water is not contained in the sea and rivers, but that the mass of earth (I mean this globe) contains moisture and spirit much deeper even than the sea. The moon draws this out by sympathy, so that they burst forth on the arrival of the moon, in consequence of the attraction of that star; and for the same reason, the quicksands which are in the sea open themselves more, and perspire their moisture and spirits during the flow of the tide, and the whirlpools in the sea disgorge copious waters; and as the star retires, they devour the same again, and attract the spirits and moisture of the terrestrial globe. Hence the moon attracts, not so much the sea as the subterranean spirits and humours; and the interposed earth has no more power of resistance than a table or any other dense body has to resist the force of a magnet. The sea rises from the greatest depths, in consequence of the ascending humours and spirits; and when it is raised up, it necessarily flows on to the shores, and from the shores it enters the rivers.”*

This passage sets in the strongest light one of the most notorious errors of the older philosophy, to which Kepler himself was remarkably addicted. If Gilbert had asserted, in direct terms, that the moon attracted the water, it is certain that the notion would have been stigmatized (as it was for a long time in Newton's hands) as arbitrary, occult, and unphilosophical: the idea of these subterranean humours was likely to be treated with much more indulgence. A simple statement, that when the moon was over the water the latter had a tendency to rise towards it, was thought to convey no instruction; but the assertion that the moon draws out subterranean spirits by sympathy, carried with it

a more imposing appearance of theory. The farther removed these humours were from common experience, the easier it became to discuss them in vague and general language; and those who called themselves philosophers could endure to hear attributes bestowed on these fictitious elements which revolted their imaginations when applied to things of whose reality at least some evidence existed.

It is not necessary to dwell upon the system of Tycho Brahe, which was identical, as we have said, with one rejected by Copernicus, and consisted in making the sun revolve about the earth, carrying with it all the other planets revolving about him. Tycho went so far as to deny the rotation of the earth to explain the vicissitudes of day and night, but even his favourite assistant Longomontanus differed from him in this part of his theory. The great merit of Tycho Brahe, and the service he rendered to astronomy, was entirely independent of any theory; consisting in the vast accumulation of observations made by him during a residence of fifteen years at Uraniburg, with the assistance of instruments, and with a degree of care, very far superior to anything known before his time in practical astronomy. Kepler is careful repeatedly to remind us, that without Tycho's observations he could have done nothing. The degree of reliance that might be placed on the results obtained by observers who acknowledged their inferiority to Tycho Brahe, may be gathered from an incidental remark of Kepler to Longomontanus. He had been examining Tycho's registers, and had occasionally found a difference amounting sometimes to 4' in the right ascensions of the same planet, deduced from different stars on the same night. Longomontanus could not deny the fact, but declared that it was impossible to be always correct within such limits. The reader should never lose sight of this uncertainty in the observations, when endeavouring to estimate the difficulty of finding a theory that would properly represent them.

When Kepler first joined Tycho Brahe at Prague, he found him and Longomontanus very busily engaged in correcting the theory of Mars, and accordingly it was this planet to which he also first directed his attention. They had formed a catalogue of the mean oppositions of Mars during twenty years, and had discovered a position of the equant, which (as they said) represented them with tolerable

* De mundo nostro sublunari, Philosophia Nova, Amstelodami, 1651.

the position of the line of nodes. In all these operations his talent for astronomical inquiries appeared pre-eminent in a variety of new methods by which he combined and availed himself of the observations; but it must be sufficient merely to mention this fact, without entering into any detail. One important result may be mentioned, at which he arrived in the course of them, the constancy of the inclination of the planet's orbit, which naturally strengthened him in his new theory.

Having gone through these preliminary inquiries, he came at last to fix the proportions of the orbit; and, in doing so, he determined, in the first instance, not to assume, as Ptolemy appeared to have done arbitrarily, the bisection of the excentricity, but to investigate its proportion along with the other elements of the orbit, which resolution involved him in much more laborious calculations. After he had gone over all the steps of his theory no less than seventy times—an appalling labour, especially if we remember that logarithms were not then invented—his final result was, that in 1587, on the 6th of March, at $7^h 23'$, the longitude of the aphelion of Mars was $4^{\circ} 28' 48'' 55''$; that the planet's mean longitude was $6^{\circ} 0' 51' 35''$; that if the semidiameter of the orbit was taken at 100000, the excentricity was 11332; and the excentricity of the equant 18564. He fixed the radius of the greater epicycle at 14988, and that of the smaller at 3628.

When he came to compare the longitudes as given by this, which he afterwards called the *vicarious* theory, with the observations at opposition, the result seemed to promise him the most brilliant success. His greatest error did not exceed $2'$; but, notwithstanding these flattering anticipations, he soon found by a comparison of longitudes out of opposition and of latitudes, that it was yet far from being so complete as he had imagined, and to his infinite vexation he soon found that the labour of four years, which he had expended on this theory, must be considered almost entirely fruitless. Even his favourite principle of dividing the excentricity in a different ratio from Ptolemy, was found to lead him into greater error than if he had retained the old bisection. By restoring that, he made his latitudes more accurate, but produced a corresponding change for the worse in his longitudes; and although the errors of $8'$, to which they now

amounted, would probably have been disregarded by former theorists, Kepler could not remain satisfied till they were accounted for. Accordingly he found himself forced to the conclusion that one of the two principles on which this theory rested must be erroneous; either the orbit of the planet is not a perfect circle, or there is no fixed point within it round which it moves with an uniform angular motion. He had once before admitted the possibility of the former of these facts, conceiving it possible that the motion of the planets is not at all curvilinear, but that they move in polygons round the sun, a notion to which he probably inclined in consequence of his favourite harmonics and geometrical figures.

In consequence of the failure of a theory conducted with such care in all its practical details, Kepler determined that his next trial should be of an entirely different complexion. Instead of first satisfying the first inequalities of the planet, and then endeavouring to account for the second inequalities, he resolved to reverse the process, or, in other words, to ascertain as accurately as possible what part of the planet's apparent motion should be referred solely to the optical illusion produced by the motion of the earth, before proceeding to any inquiry of the real inequality of the planet's proper motion. It had been hitherto taken for granted, that the earth moved equably round the centre of its orbit; but Kepler, on resuming the consideration of it, recurred to an opinion he had entertained very early in his astronomical career (rather from his conviction of the existence of general laws, than that he had then felt the want of such a supposition), that it required an equant distinct from its orbit no less than the other planets. He now saw, that if this were admitted, the changes it would everywhere introduce in the optical part of the planet's irregularities might perhaps relieve him from the perplexity in which the vicarious theory had involved him. Accordingly he applied himself with renewed assiduity to the examination of this important question, and the result of his calculations (founded principally on observations of Mars' parallax) soon satisfied him: not only that the earth's orbit does require such an equant, but that its centre is placed according to the general law of the bisection of the excentricity which he had previously found

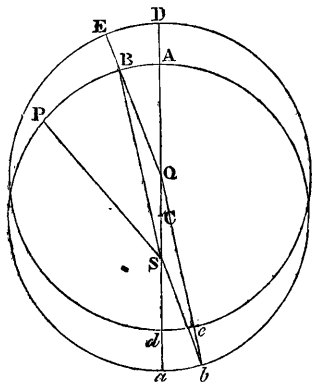
indispensable in the other planets. This was an innovation of the first magnitude, and accordingly Kepler did not venture to proceed farther in his theory, till by evidence of the most varied and satisfactory nature, he had established it beyond the possibility of cavil.

It may be here remarked, that this principle of the bisection of the eccentricity, so familiar to the Ptolemaic astronomers, is identical with the theory afterwards known by the name of the simple elliptic hypothesis, advocated by Seth Ward and others. That hypothesis consisted in supposing the sun to be placed in one focus of the elliptic orbit of the planet, whose angular motion was uniform round the other focus. In Ptolemaic phraseology, that other focus was the centre of the equant, and it is well known that the centre of the ellipse lies in the middle point between the two foci.

It was at this period also, that Kepler first ventured upon the new method of representing inequalities which terminated in one of his most celebrated discoveries. We have already seen, in the account of the "*Mysterium Cosmographicum*," that he was speculating, even at that time, on the effects of a whirling force exerted by the sun on the planets with diminished energy at increased distances, and on the proportion observed between the distances of the planets from the sun, and their periods of revolution. He seems even then to have believed in the possibility of discovering a relation between the times and distances in different planets. Another analogous consequence of his theory of the radiation of the whirling force would be, that if the same planet should recede to a greater distance from the central body, it would be acted on by a diminished energy of revolution, and consequently, a relation might be found between the velocity at any point of its orbit, and its distance at that point from the sun. Hence he expected to derive a more direct and natural method of calculating the inequalities, than from the imaginary equant. But these ingenious ideas had been checked in the outset by the erroneous belief which Kepler, in common with other astronomers, then entertained of the coincidence of the earth's equant with its orbit; in other words, by the belief that the earth's linear motion was uniform, though it was known not to remain constantly at the same distance from the sun. As soon as this prejudice

was removed, his former ideas recurred to him with increased force, and he set himself diligently to consider what relation could be found between the velocity and distance of a planet from the sun. The method he adopted in the beginning of this inquiry was to assume as approximately correct Ptolemy's doctrine of the bisection of the eccentricity, and to investigate some simple relation nearly representing the same effect.

In the annexed figure, S is the place of the sun, C the centre of the planet's



orbit $ABab$, Q the centre of the equant represented by the equal circle $DEde$. AB, ab , two equal small arcs described by the planet at the apses of its orbit: then, according to Ptolemy's principles, the arc DE of the equant would be proportional to the time of passing along AB , on the same scale on which de would represent the time of passing through the equal arc ab .

$QD : QA :: DE : AB$, nearly; and because QS is bisected in C , QA, CA or QD , and SA , are in arithmetical proportion: and, therefore, since an arithmetical mean, when the difference is small, does not differ much from a geometrical mean, $QD : QA :: SA : QD$, nearly. Therefore, $DE : AB :: SA : QD$, nearly, and in the same manner $de : ab :: Sa : Qd$ nearly; and therefore $DE : de :: SA : Sa$ nearly. Therefore at the apses, the times of passing over equal spaces, on Ptolemy's theory, are nearly as the distances from the sun, and Kepler, with his usual hastiness, immediately concluded that this was the accurate and general law, and that the errors of the old theory arose solely from having departed from it.

It followed immediately from this assumption, that after leaving the point A , the time in which the planet would

arrive at any point P of its orbit would be proportional to, and might be represented by, the sums of all the lines that could be drawn from S to the arc AP, on the same scale that the whole period of revolution would be denoted by the sum of all the lines drawn to every point of the orbit. Kepler's first attempt to verify this supposition approximately, was made by dividing the whole circumference of the orbit into 360 equal parts, and calculating the distances at every one of the points of division. Then supposing the planet to move uniformly, and to remain at the same distance from the sun during the time of passing each one of these divisions, (a supposition which manifestly would not differ much from the former one, and would coincide with it more nearly, the greater was the number of divisions taken) he proceeded to add together these calculated distances, and hoped to find that the time of arriving at any one of the divisions bore the same ratio to the whole period, as the sum of the corresponding set of distances did to the sum of the whole 360.

This theory was erroneous; but by almost miraculous good fortune, he was led by it in the following manner to the true measure. The discovery was a consequence of the tediousness of his first method, which required, in order to know the time of arriving at any point, that the circle should be subdivided, until one of the points of division fell exactly upon the given place. Kepler therefore endeavoured to discover some shorter method of representing these sums of the distances. The idea then occurred to him of employing for that purpose the area inclosed between the two distances, SA, SP, and the arc AP, in imitation of the manner in which he remembered that Archimedes had found the area of the circle, by dividing it into an infinite number of small triangles by lines drawn from the centre. He hoped therefore to find, that the time of passing from A to P bore nearly the same ratio to the whole period of revolution that the area ASP bore to the whole circle.

This last proportion is in fact accurately observed in the revolution of one body round another, in consequence of an attractive force in the central body. Newton afterwards proved this, grounding his demonstration upon laws of motion altogether irreconcilable with Kepler's opinions; and it is impossible

not to admire Kepler's singular good fortune in arriving at this correct result in spite, or rather through the means, of his erroneous principles. It is true that the labour which he bestowed unsparingly upon every one of his successive guesses, joined with his admirable candour, generally preserved him from long retaining a theory altogether at variance with observations; and if any relation subsisted between the times and distances which could any way be expressed by any of the geometrical quantities under consideration, he could scarcely have failed—it might be twenty years earlier or twenty years later,—to light upon it at last, having once put his indefatigable fancy upon this scent. But in order to prevent an over-estimate of his merit in detecting this beautiful law of nature, let us for a moment reflect what might have been his fate had he endeavoured in the same manner, and with the same perseverance, to discover a relation, where, in reality, none existed. Let us take for example the inclinations or the eccentricities of the planetary orbits, among which no relation has yet been discovered; and if any exists, it is probably of too complicated a nature to be hit at a venture. If Kepler had exerted his ingenuity in this direction, he might have wasted his life in fruitless labour, and whatever reputation he might have left behind him as an industrious calculator, it would have been very far inferior to that which has procured for him the proud title of the "Legislator of the Heavens."

However this may be, the immediate consequence of thus lighting upon the real law observed by the earth in its passage round the sun was, that he found himself in possession of a much more accurate method of representing its inequalities than had been reached by any of his predecessors; and with renewed hopes he again attacked the planet Mars, whose path he was now able to consider undistorted by the illusions arising out of the motion of the earth. Had the path of Mars been accurately circular, or even as nearly approaching a circle as that of the earth, the method he chose of determining its position and size by means of three distances carefully calculated from his observed parallaxes, would have given a satisfactory result; but finding, as he soon did, that almost every set of three distances led him to a different result, he began to suspect another error in the long-received opi-

nion, that the orbits of the planets must consist of a combination of circles; he therefore determined, in the first instance, to fix the distances of the planet at the apsides without any reference to the form of the intermediate orbit. Half the difference between these would, of course, be the excentricity of the orbit; and as this quantity came out very nearly the same as had been determined on the vicarious theory, it seemed clear that the error of that theory, whatever it might be, did not lie in these elements.

Kepler also found that in the case of this planet likewise, the times of describing equal arcs at the apsides were proportional to its distances from the sun, and he naturally expected that the method of areas would measure the planet's motion with as much accuracy as he had found in the case of the earth. This hope was disappointed: when he calculated the motion of the planet by this method, he obtained places too much advanced when near the apsides, and too little advanced at the mean distances. He did not, on that account, immediately reject the opinion of circular orbits, but was rather inclined to suspect the principle of measurement, at which he felt that he had arrived in rather a precarious manner. He was fully sensible that his areas did not accurately represent the sums of any distances except those measured from the centre of the circle; and for some time he abandoned the hope of being able to use this substitution, which he always considered merely as an approximate representation of the true measure, the sum of the distances. But on examination he found that the errors of this substitution were nearly insensible, and those it did in fact produce, were in the contrary direction of the errors he was at this time combating. As soon as he had satisfied himself of this, he ventured once more on the supposition, which by this time had, in his eyes, almost acquired the force of demonstration, that the orbits of the planets are not circular, but of an oval form, retiring within the circle at the mean distances, and coinciding with it at the apsides.

This notion was not altogether new; it had been suggested in the case of Mercury, by Purbach, in his "Theories of the Planets." In the edition of this work published by Reinhold, the pupil of Copernicus, we read the following passage. "Sixthly, it appears from what has been said, that the centre of

Mercury's epicycle, by reason of the motions above-mentioned, does not, as is the case with the other planets, describe the circumference of a circular deferent, but rather the periphery of a figure resembling a plane oval." To this is added the following note by Reinhold. "The centre of the Moon's epicycle describes a path of a lenticular shape; Mercury's on the contrary is egg-shaped, the big end lying towards his apogee, and the little end towards his perigee*." The excentricity of Mercury's orbit is, in fact, much greater than that of any of the other planets, and the merit of making this first step cannot reasonably be withheld from Purbach and his commentator, although they did not pursue the inquiry so far as Kepler found himself in a condition to do.

Before proceeding to the consideration of the particular oval which Kepler fixed upon in the first instance, it will be necessary, in order to render intelligible the source of many of his doubts and difficulties, to make known something more of his theory of the moving force by which he supposed the planets to be carried round in their orbits. In conformity with the plan hitherto pursued, this shall be done as much as possible in his own words.

"It is one of the commonest axioms in natural philosophy, that if two things always happen together and in the same manner, and admit the same measure, either the one is the cause of the other, or both are the effect of a common cause. In the present case, the increase or languor of motion invariably corresponds with an approach to or departure from the centre of the universe. Therefore, either the languor is the cause of the departure of the star, or the departure of the languor, or both have a common cause. But no one can be of opinion that there is a concurrence of any third thing to be a common cause of these two effects, and in the following chapters it will be made clear that there is no occasion to imagine any such third thing, since the two are of themselves sufficient. Now, it is not agreeable to the nature of things that activity or languor in linear motion should be the cause of distance from the centre. For, distance from the centre is conceived anteriorly to linear motion. In fact linear motion cannot exist without dis-

* *Theoricæ novæ planetarum.* G. Purbachii, Parisiæ, 1553.

tance from the centre, since it requires space for its accomplishment, but distance from the centre can be conceived without motion. Therefore distance is the cause of the activity of motion, and a greater or less distance of a greater or less delay. And since distance is of the kind of relative quantities, whose essence consists in boundaries, (for there is no efficacy in relation *per se* without regard to bounds,) it follows that the cause of the varying activity of motion rests in one of the boundaries. But the body of the planet neither becomes heavier by receding, nor lighter by approaching. Besides, it would perhaps be absurd on the very mention of it, that an animal force residing in the moveable body of the planet for the purpose of moving it, should exert and relax itself so often without weariness or decay. It remains, therefore, that the cause of this activity and languor resides at the other boundary, that is, in the very centre of the world, from which the distances are computed.—Let us continue our investigation of this moving virtue which resides in the sun, and we shall presently recognize its very close analogy to light. And although this moving virtue cannot be identical with the light of the sun, let others look to it whether the light is employed as a sort of instrument, or vehicle, to convey the moving virtue. There are these seeming contradictions:—first, light is obstructed by opaque bodies, for which reason if the moving virtue travelled on the light, darkness would be followed by a stoppage of the moveable bodies. Again, light flows out in right lines spherically, the moving virtue in right lines also, but cylindrically; that is, it turns in one direction only, from west to east; not in the opposite direction, not towards the poles, &c. But perhaps we shall be able presently to reply to these objections. In conclusion, since there is as much virtue in a large and remote circle as in a narrow and close one, nothing of the virtue perishes in the passage from its source, nothing is scattered between the source and the moveable. Therefore the efflux, like that of light, is not material, and is unlike that of odours, which are accompanied by a loss of substance, unlike heat from a raging furnace, unlike every other emanation by which mediums are filled. It remains, therefore, that as light which illuminates all earthly things, is the immaterial species of that fire which is in

the body of the sun, so this virtue, embracing and moving all the planetary bodies, is the immaterial species of that virtue which resides in the sun itself, of incalculable energy, and so the primary act of all mundane motion.—I should like to know who ever said that there was anything material in light!—Guided by our notion of the efflux of this species (or archetype), let us contemplate the more intimate nature of the source itself. For it seems as if something divine were latent in the body of the sun, and comparable to our own soul, whence that species emanates which drives round the planets; just as from the mind of a slinger the species of motion sticks to the stones, and carries them forward, even after he who cast them has drawn back his hand. But to those who wish to proceed soberly, reflections differing a little from these will be offered."

Our readers will, perhaps, be satisfied with the assurance, that these sober considerations will not enable them to form a much more accurate notion of Kepler's meaning than the passages already cited. We shall therefore proceed to the various opinions he entertained on the motion of the planets.

He considered it as established by his theory, that the centre *E* of the planet's epicycle (see fig. p. 33.) moved round the circumference of the deferent *Dd*, according to the law of the planet's distances; the point remaining to be settled was the motion of the planet in the epicycle. If it were made to move according to the same law, so that when the centre of the epicycle reached *E*, the planet should be at *F*, taking the angle *BEF* equal to *BSA*, it has been shewn (p. 19) that the path of *F* would still be a circle, excentric from *Dd* by *DA* the radius of the epicycle.

But Kepler fancied that he saw many sound reasons why this could not be the true law of motion in the epicycle, on which reasons he relied much more firmly than on the indisputable fact, which he mentions as a collateral proof, that it was contradicted by the observations. Some of these reasons are subjoined: "In the beginning of the work it has been declared to be most absurd, that a planet (even though we suppose it endowed with mind) should form any notion of a centre, and a distance from it, if there be no body in that centre to serve for a distinguishing mark. And although you should say, that the planet

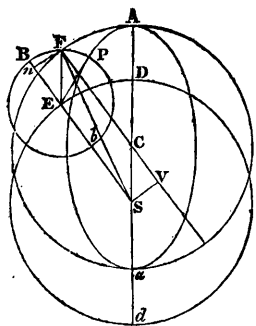
has respect to the sun, and knows beforehand, and remembers the order in which the distances from the sun are comprised, so as to make a perfect excentric; in the first place, this is rather far-fetched, and requires, in any mind, means for connecting the effect of an accurately circular path with the sign of an increasing and diminishing diameter of the sun. But there are no such means, except the position of the centre of the excentric at a given distance from the sun; and I have already said, that this is beyond the power of a mere mind. I do not deny that a centre may be imagined, and a circle round it; but this I do say, if the circle exists only in imagination, with no external sign or division, that it is not possible that the path of a moveable body should be really ordered round it in an exact circle. Besides, if the planet chooses from memory its just distances from the sun, so as exactly to form a circle, it must also take from the same source, as if out of the Prussian or Alphonsine tables, equal excentric arcs, to be described in unequal times, and to be described by a force extraneous from the sun; and thus would have, from its memory, a foreknowledge of what effects a virtue, senseless and extraneous from the sun, was about to produce: all these consequences are absurd."

"It is therefore more agreeable to reason that the planet takes no thought, either of the excentric or epicycle; but that the work which it accomplishes, or joins in effecting, is a libratory path in the diameter Bb of the epicycle, in the direction towards the sun. The law is now to be discovered, according to which the planet arrives at the proper distances in any time. And indeed in this inquiry, it is easier to say what the law is not than what it is."—Here, according to his custom, Kepler enumerates several laws of motion by which the planet might choose to regulate its energies, each of which is successively condemned. Only one of them is here mentioned, as a specimen of the rest. "What then if we were to say this? Although the motions of the planet are not epicyclical, perhaps the libration is so arranged that the distances from the sun are equal to what they would have been in a real epicyclical motion.—This leads to more incredible consequences than the former suppositions, and yet in the dearth of better opinions, let us for the present content ourselves with this. The greater num-

ber of absurd conclusions it will be found to involve, the more ready will a physician be, when we come to the fifty-second chapter, to admit what the observations testify, that the path of the planet is not circular."

The first oval path on which Kepler was induced to fix, by these and many other similar considerations, was in the first instance very different from the true elliptical form. Most authors would have thought it unnecessary to detain their readers with a theory which they had once entertained and rejected; but Kepler's work was written on a different plan. He thus introduces an explanation of his first oval. "As soon as I was thus taught by Brahe's very accurate observations that the orbit of a planet is not circular, but more compressed at the sides, on the instant I thought that I understood the natural cause of this defection. But the old proverb was verified in my case;—the more haste the less speed.—For having violently laboured in the 39th chapter, in consequence of my inability to find a sufficiently probable cause why the orbit of the planet should be a perfect circle, (some absurdities always remaining with respect to that virtue which resides in the body of the planet,) and having now discovered from the observations, that the orbit is not a perfect circle, I felt furiously inclined to believe that if the theory which had been recognized as absurd, when employed in the 39th chapter for the purpose of fabricating a circle, were modulated into a more probable form, it would produce an accurate orbit agreeing with the observations. If I had entered on this course a little more warily, I might have detected the truth immediately. But, being blinded by my eagerness, and not sufficiently regardful of every part of the 39th chapter, and clinging to my first opinion, which offered itself to me with a wonderful show of probability, on account of the equable motion in the epicycle, I got entangled in new perplexities, with which we shall now have to struggle in this 45th chapter and the following ones as far as the 50th chapter."

In this theory, Kepler supposed that whilst the centre of the epicycle was moving round a circular deferent according to the law of the planets' distances (or areas) the planet itself moved equably in the epicycle, with the mean angular velocity of its centre in the deferent. In consequence of this supposition, since



at D, when the planet is at A the aphelion, the motion in the deferent is less than the mean motion, the planet will have advanced through an angle BEP greater than BEF or BSA, through which the centre of the epicycle has moved; and consequently, the path will lie everywhere within the circle A *a*, except at the apsides. Here was a new train of laborious calculations to undergo for the purpose of drawing the curve AP *a* according to this law, and of measuring the area of any part of it. After a variety of fruitless attempts, for this curve is one of singular complexity, he was reduced, as a last resource, to suppose it insensibly different from an ellipse on the same principal axes, as an approximate means of estimating its area. Not content even with the results so obtained, and not being able to see very clearly what might be the effect of his alteration in substituting the ellipse for the oval, and in other simplifications introduced by him, he had courage enough to obtain the sums of the 360 distances by direct calculation, as he had done in the old circular theory.

In the preface to his book he had spoken of his labours under the allegory of a war carried on by him against the planet; and when exulting in the early prospects of success this calculation seemed to offer, he did not omit once more to warn his readers, in his peculiar strain, that this exultation was premature.

"Allow me, gentle reader, to enjoy so splendid a triumph for one little day (I mean through the five next chapters), meantime be all rumours suppressed of new rebellion, that our preparations may not perish, yielding us no delight. Hereafter if anything shall come to pass, we will go through it in its own time and season; now let us be merry, as then we will be bold and vigorous." At the time foretold, that is to say, at the end

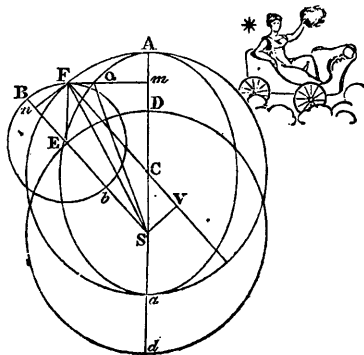
of the five merry chapters, the bad news could no longer be kept a secret. It is announced in the following bulletin:—"While thus triumphing over Mars, and preparing for him, as for one altogether vanquished, tabular prisons, and equated eccentric fetters, it is buzzed here and there that the victory is vain, and that the war is raging anew as violently as before. For the enemy, left at home a despised captive, has burst all the chains of the equations; and broken forth of the prisons of the tables. For no method of geometrically administering the theory of the 45th chapter was able to come near the accuracy of approximation of the vicarious theory of the 16th chapter, which gave me true equations derived from false principles. Skirmishers, disposed all round the circuit of the excentric, (I mean the true distances,) routed my forces of physical causes levied out of the 45th chapter, and shaking off the yoke, regained their liberty. And now there was little to prevent the fugitive enemy from effecting a junction with his rebellious supporters, and reducing me to despair, had I not suddenly sent into the field a reserve of new physical reasonings on the rout and dispersion of the veterans, and diligently followed, without allowing him the slightest respite, in the direction in which he had broken out."

In plainer terms, Kepler found, after this labour was completed, that the errors in longitude he was still subject to were precisely of an opposite nature to those he had found with the circle; instead of being too quick at the ap-sides, the planet was now too slow there; and too much accelerated in the mean distances; and the distances obtained from direct observation were every-where greater, except at the apsides, than those furnished by this oval theory. It was in the course of these tedious investigations that he established, still more satisfactorily than he had before done, that the inclinations of the planets' orbits are invariable, and that the lines of their nodes pass through the centre of the Sun, and not, as before his time had been supposed, through the centre of the ecliptic.

When Kepler found with certainty that this oval from which he expected so much would not satisfy the observations, his vexation was extreme, not merely from the mortification of finding a theory confuted on which he had spent

such excessive labour, for he was accustomed to disappointments of that kind, but principally from many anxious and fruitless speculations as to the real physical causes why the planet did not move in the supposed epicycle, that being the point of view, as has been already shewn, from which he always preferred to begin his inquiries. One part of the reasoning by which he reconciled himself to the failure exhibits much too curious a view of the state of his mind to be passed over in silence. The argument is founded on the difficulty which he met with, as abovementioned, in calculating the proportions of the oval path he had imagined. "In order that you may see the cause of the impracticability of this method which we have just gone through, consider on what foundations it rests. The planet is supposed to move equably in the epicycle, and to be carried by the Sun unequally in the proportion of the distances. But by this method it is impossible to be known how much of the oval path corresponds to any given time, although the distance at that part is known, unless we first know the length of the whole oval. But the length of the oval cannot be known, except from the law of the entry of the planet within the sides of the circle. But neither can the law of this entry be known before we know how much of the oval path corresponds to any given time. Here you see that there is a *petitio principii*; and in my operations I was assuming that of which I was in search, namely, the length of the oval. This is at least not the fault of my understanding, but it is also most alien to the primary Ordainer of the planetary courses: I have never yet found so ungeometrical a contrivance in his other works. Therefore we must either hit upon some other method of reducing the theory of the 45th chapter to calculation; or if that cannot be done, the theory itself, suspected on account of this *petitio principii*, will totter." Whilst his mind was thus occupied, one of those extraordinary accidents which it has been said never occur but to those capable of deriving advantage from them (but which, in fact, are never noticed when they occur to any one else), fortunately put him once more upon the right path. Half the extreme breadth between the oval and the circle nearly represented the errors of his distances at the mean point, and he found that this half was 429 parts of a radius, consisting of 100000 parts;

and happening to advert to the greatest optical inequality of Mars, which amounts to about $5^{\circ} 18'$, it struck him that 429 was precisely the excess of the secant of $5^{\circ} 18'$ above the radius taken at 100000. This was a ray of light, and, to use his own words, it roused him as out of sleep. In short, this single observation was enough to produce conviction in his singularly constituted mind, that instead of the distances S F, he should everywhere substitute F V, determined by drawing S V perpendicular on the line F C, since the excess of S F above F V is manifestly that of the secant above the radius in the optical equation S F C at that point. It is still more extraordinary that a substitution made for such a reason should have the luck, as is again the case, to be the right one. This substitution in fact amounted to supposing that the planet, instead of being at the distance S P or S F, was at S n; or, in other words, that instead of revolving in the circumference, it librated in the diameter of the epicycle, which was to him an additional recommendation. Upon this new supposition a fresh set of distances was rapidly calculated, and to Kepler's inexpressible joy, they were found to agree with the observations within the limits of the errors to which the latter were necessarily subject. Notwithstanding this success, he had to undergo, before arriving at the successful termination of his labours, one more disappointment. Although the distance corresponding to a time from the aphe- lion represented approximately by the area A S F, was thus found to be accurately represented by the line S n, there was still an error with regard to the direction in which that distance was to be measured. Kepler's first idea was to set it off in the direction S F, but this he found to lead to inaccurate longitudes;



and it was not until after much perplexity, driving him, as he tells us, "almost to insanity," that he satisfied himself that the distance SQ equal to FV ought to be taken terminating in Fm , the line from F perpendicular to Aa , the line of apsides, and that the curve so traced out by Q would be an accurate ellipse.

He then found to his equal gratification and amazement, a small part of which he endeavoured to express by a triumphant figure on the side of his diagram, that the error he had committed in taking the area ASF to represent the sums of the distances SF , was exactly counterbalanced; for this area does accurately represent the sums of the distances FV or SQ . This compensation, which seemed to Kepler the greatest confirmation of his theory, is altogether accidental and immaterial, resulting from the relation between the ellipse and circle. If the laws of planetary attraction had chanced to have been any other than those which cause them to describe ellipses, this last singular confirmation of an erroneous theory could not have taken place, and Kepler would have been forced either to abandon the theory of the areas, which even then would have continued to measure and define their motions, or to renounce the physical opinions from which he professed to have deduced it as an approximative truth.

These are two of the three celebrated theorems called Kepler's laws: the first is, that the planets move in ellipses round the sun, placed in the focus; the second, that the time of describing any arc is proportional in the same orbit to the area included between the arc and the two bounding distances from the sun. The third will be mentioned on another occasion, as it was not discovered till twelve years later. On the establishment of these two theorems, it became important to discover a method of measuring such elliptic areas, but this is a problem which cannot be accurately solved. Kepler, in offering it to the attention of geometers, stated his belief that its solution was unattainable by direct processes, on account of the incommensurability of the arc and sine, on which the measurement of the two parts AQm , SQm depends. "This," says he in conclusion, "this is my belief, and whoever shall shew my mistake, and point out the true solution,

Is erit mihi magnus Apollonius."

CHAPTER VI.

Kepler appointed Professor at Linz—His second marriage—Publishes his new Method of Gauging—Refuses a Professorship at Bologna.

WHEN presenting this celebrated book to the emperor, Kepler gave notice that he contemplated a farther attack upon Mars's relations, father Jupiter, brother Mercury, and the rest; and promised that he would be successful, provided the emperor would not forget the sinews of war, and order him to be furnished anew with means for recruiting his army. The death of his unhappy patron, the Emperor Rodolph, which happened in 1612, barely in time to save him from the last disgrace of deposition from the Imperial throne, seemed to put additional difficulties in the way of Kepler's receiving the arrears so unjustly denied to him; but on the accession of Rodolph's brother, Matthias, he was again named to his post of Imperial Mathematician, and had also a permanent professorship assigned to him in the University of Linz. He quitted Prague without much regret, where he had struggled against poverty during eleven years. Whatever disinclination he might feel to depart, arose from his unwillingness to loosen still more the hold he yet retained upon the wreck of Tycho Brahe's instruments and observations. Tegnagel, son-in-law of Tycho, had abandoned astronomy for a political career, and the other members of his family, who were principally females, suffered the costly instruments to lie neglected and forgotten, although they had obstructed with the utmost jealousy Kepler's attempts to continue their utility. The only two instruments Kepler possessed of his own property, were "An iron sextant of $2\frac{1}{2}$ feet diameter, and a brass azimuthal quadrant, of $3\frac{1}{2}$ feet diameter, both divided into minutes of a degree." These were the gift of his friend and patron, Hoffman, the President of Styria, and with these he made all the observations which he added to those of Tycho Brahe. His constitution was not favourable to these studies, his health being always delicate, and suffering much from exposure to the night air; his eyes also were very weak, as he mentions himself in several places. In the summary of his character which he drew up when proposing to become Tycho Brahe's assistant, he describes himself as follows:—"For observations

my sight is dull; for mechanical operations my hand is awkward; in politics and domestic matters my nature is troublesome and choleric; my constitution will not allow me, even when in good health, to remain a long time sedentary (particularly for an extraordinary time after dinner); I must rise often and walk about, and in different seasons am forced to make corresponding changes in my diet."

The year preceding his departure to Linz was denounced by him as pregnant with misfortune and misery. "In the first place I could get no money from the court, and my wife, who had for a long time been suffering under low spirits and despondency, was taken violently ill towards the end of 1610, with the Hungarian fever, epilepsy, and phrenitis. She was scarcely convalescent when all my three children were at once attacked with small-pox. Leopold with his army occupied the town beyond the river, just as I lost the dearest of my sons, him whose nativity you will find in my book on the new star. The town on this side of the river where I lived was harassed by the Bohemian troops, whose new levies were insubordinate and insolent: to complete the whole, the Austrian army brought the plague with them into the city. I went into Austria, and endeavoured to procure the situation which I now hold. Returning in June, I found my wife in a decline from her grief at the death of her son, and on the eve of an infectious fever; and I lost her also, within eleven days after my return. Then came fresh annoyance, of course, and her fortune was to be divided with my step-sisters. The Emperor Rodolph would not agree to my departure; vain hopes were given me of being paid from Saxony; my time and money were wasted together, till on the death of the emperor, in 1612, I was named again by his successor, and suffered to depart to Linz. These, methinks, were reasons enough why I should have overlooked not only your letters, but even astronomy itself."

Kepler's first marriage had not been a happy one; but the necessity in which he felt himself of providing some one to take charge of his two surviving children, of whom the eldest, Susanna, was born in 1602, and Louis in 1607, determined him on entering a second time into the married state. The account he has left us of the various negotiations which preceded his final choice, does not, in

any point, belie the oddity of his character. His friends seem to have received a general commission to look out for a suitable match, and in a long and most amusing letter to the Baron Strahlendorf, we are made acquainted with the pretensions and qualifications of no less than eleven ladies among whom his inclinations wavered.

The first on the list was a widow, an intimate friend of his first wife's, and who, on many accounts, appeared a most eligible match. "At first she seemed favourably inclined to the proposal; it is certain that she took time to consider it, but at last she very quietly excused herself." It must have been from a recollection of this lady's good qualities that Kepler was induced to make his offer; for we learn rather unexpectedly, after being informed of her decision, that when he soon afterwards paid his respects to her, it was for the first time that he had seen her during the last six years; and he found, to his great relief, that "there was no single pleasing point about her." The truth seems to be that he was nettled by her answer, and he is at greater pains than appear necessary, considering this last discovery, to determine why she would not accept his offered hand. Among other reasons he suggested her children, among whom were two marriageable daughters; and it is diverting afterwards to find them also in the catalogue which Kepler appeared to be making of all his female acquaintance. He seems to have been much perplexed in attempting to reconcile his astrological theory with the fact of his having taken so much trouble about a negotiation not destined to succeed. "Have the stars exercised any influence here? For just about this time the direction of the Mid-Heaven is in hot opposition to Mars, and the passage of Saturn, through the ascending point of the zodiac, in the scheme of my nativity, will happen again next November and December. But if these are the causes, how do they act? Is that explanation the true one which I have elsewhere given? For I can never think of handing over to the stars the office of deities to produce effects. Let us therefore suppose it accounted for by the stars, that at this season I am violent in my temper and affections, in rashness of belief, in a shew of pitiful tender-heartedness; in catching at reputation by new and paradoxical notions, and the

singularity of my actions; in busily inquiring into, and weighing and discussing, various reasons; in the uneasiness of my mind with respect to my choice. I thank God that that did not happen which might have happened; that this marriage did not take place: now for the others." Of these others, one was too old, another in bad health, another too proud of her birth and quarterings; a fourth had learned nothing but shewy accomplishments, "not at all suitable to the sort of life she would have to lead with me." Another grew impatient, and married a more decided admirer, whilst he was hesitating. "The mischief (says he) in all these attachments was, that whilst I was delaying, comparing, and balancing conflicting reasons, every day saw me inflamed with a new passion." By the time he reached the eighth, he found his match in this respect. "Fortune at length has avenged herself on my doubtful inclinations. At first she was quite complying, and her friends also: presently, whether she did or did not consent, not only I, but she herself did not know. After the lapse of a few days, came a renewed promise, which however had to be confirmed a third time; and four days after that, she again repented her confirmation, and begged to be excused from it. Upon this I gave her up, and this time all my counsellors were of one opinion." This was the longest courtship in the list, having lasted three whole months; and quite disheartened by its bad success, Kepler's next attempt was of a more timid complexion. His advances to No. 9, were made by confiding to her the whole story of his recent disappointment, prudently determining to be guided in his behaviour, by observing whether the treatment he had experienced met with a proper degree of sympathy. Apparently the experiment did not succeed; and almost reduced to despair, Kepler betook himself to the advice of a friend, who had for some time past complained that she was not consulted in this difficult negotiation. When she produced No. 10, and the first visit was paid, the report upon her was as follows:—"She has, undoubtedly, a good fortune, is of good family, and of economical habits: but her physiognomy is most horribly ugly; she would be stared at in the streets, not to mention the striking disproportion in our figures. I am lank, lean, and spare; she is short and thick: in a family notorious for fatness she is

considered superfluously fat." The only objection to No. 11 seems to have been her excessive youth; and when this treaty was broken of on that account, Kepler turned his back upon all his advisers, and chose for himself one who had figured as No. 5 in the list, to whom he professes to have felt attached throughout, but from whom the representations of his friends had hitherto detained him, probably on account of her humble station.

The following is Kepler's summary of her character. "Her name is Susanna, the daughter of John Reuthinger and Barbara, citizens of the town of Eferdingen; the father was by trade a cabinet-maker, but both her parents are dead. She has received an education well worth the largest dowry, by favour of the Lady of Stahrenberg, the strictness of whose household is famous throughout the province. Her person and manners are suitable to mine; no pride, no extravagance; she can bear to work; she has a tolerable knowledge how to manage a family; middle-aged, and of a disposition and capability to acquire what she still wants. Her I shall marry by favour of the noble baron of Stahrenberg at twelve o'clock on the 30th of next October, with all Eferdingen assembled to meet us, and we shall eat the marriage-dinner at Maurice's at the Golden Lion."

Hantsch has made an absurd mistake with regard to this marriage, in stating that the bride was only twelve years old. Kästner and other biographers have been content to repeat the same assertion without any comment, notwithstanding its evident improbability. The origin of the blunder is to be found in Kepler's correspondence with Bernegger, to whom, speaking of his wife, he says "She has been educated for twelve years by the Lady of Stahrenberg." This is by no means a single instance of carelessness in Hantsch; Kästner has pointed out others of greater consequence. It was owing to this marriage, that Kepler took occasion to write his new method of gauging, for as he tells us in his own peculiar style "last November I brought home a new wife, and as the whole course of Danube was then covered with the produce of the Austrian vineyards, to be sold at a reasonable rate, I purchased a few casks, thinking it my duty as a good husband and a father of a family, to see that my household was well provided with drink." When the seller came to ascertain the quantity, Kepler objected to his method

of gauging, for he allowed no difference, whatever might be the proportion of the bulging parts. The reflections to which this incident gave rise, terminated in the publication of the above-mentioned treatise, which claims a place among the earliest specimens of what is now called the modern analysis. In it he extended several properties of plane figures to segments of cones and cylinders, from the consideration that "these solids are incorporated circles," and, therefore, that those properties are true of the whole which belong to each component part. That the book might end as oddly as it began, Kepler concluded it with a parody of Catullus:

"Et cum pocula mille mensi erimus
Conturbabimus illa, ne sciamus."

His new residence at Linz was not long undisturbed. He quarrelled there, as he had done in the early part of his life at Gratz, with the Roman Catholic party, and was excommunicated. "Judge," says he to Peter Hoffman, "how far I can assist you, in a place where the priest and school-inspector have combined to brand me with the public stigma of heresy, because in every question I take that side which seems to me to be consonant with the word of God." The particular dogma which occasioned his excommunication, was connected with the doctrine of transubstantiation. He published his creed in a copy of Latin verses, preserved by his biographer Hantsch.

Before this occurrence, Kepler had been called to the diet at Ratisbon to give his opinion on the propriety of adopting the Gregorian reformation of the calendar, and he published a short essay, pointing out the respective convenience of doing so, or of altering the old Julian Calendar in some other manner. Notwithstanding the readiness of the diet to avail themselves of his talents for the settlement of a difficult question, the arrears of his salary were not paid much more regularly than they had been in Rodolph's time, and he was driven to provide himself with money by the publication of his almanac, of which necessity he heavily and justly complained. "In order to pay the expense of the Ephemeris for these two years, I have also written a vile prophesying almanac, which is scarcely more respectable than begging; unless it be because it saves the emperor's credit, who abandons me entirely; and with all his frequent and recent orders in council,

would suffer me to perish with hunger." Kepler published this Ephemeris annually till 1620; ten years later he added those belonging to the years from 1620 to 1628.

In 1617 Kepler was invited into Italy, to succeed Magini as Professor of Mathematics at Bologna. The offer tempted him; but, after mature consideration, he rejected it, on grounds which he thus explained to Roffini:—"By birth and spirit I am a German, imbued with German principles, and bound by such family ties, that even if the emperor should consent, I could not, without the greatest difficulty, remove my dwelling-place from Germany into Italy. And although the glory of holding so distinguished a situation among the venerable professors of Bologna stimulates me, and there appears great likelihood of notably increasing my fortune, as well from the great concourse to the public lectures, as from private tuition; yet, on the other hand, that period of my life is past which was once excited by novelty, or which might promise itself a long enjoyment of these advantages. Besides, from a boy up to my present years, living a German among Germans, I am accustomed to a degree of freedom in my speech and manners, which, if persevered in on my removal to Bologna, seems likely to draw upon me, if not danger, at least notoriety, and might expose me to suspicion and party malice. Notwithstanding this answer, I have yet hopes that your most honourable invitation will be of service to me, and may make the imperial treasurer more ready than he has hitherto been to fulfil his master's intentions towards me. In that case I shall the sooner be able to publish the Rudolphine Tables and the Ephemerides, of which you had the scheme so many years back; and in this manner you and your advisers may have no reason to regret this invitation, though for the present it seems fruitless."

In 1619, the Emperor Matthias died, and was succeeded by Ferdinand III., who retained Kepler in the post he had filled under his two predecessors on the imperial throne. Kästner, in his "History of Mathematics," has corrected a gross error of Hantsch, in asserting that Kepler prognosticated Matthias's death. The letter to which Hantsch refers, in support of his statement, does indeed mention the emperor's death, but merely as a notorious event, for the purpose of recalling a date to the memory of his correspondent.

CHAPTER VII.

Kepler publishes his Harmonics—Account of his Astrological Opinions and Discovery of the Law of the Periods of the Planetary Revolutions—Sketch of Newton's proof of Kepler's Laws.

THE "Cosmographical Mystery" was written, as has been already mentioned, when Kepler was only twenty-six, and the wildness of its theories might be considered as due merely to the vivacity of a young man; but as if purposely to shew that his maturer age did not renounce the creations of his youthful fancy, he reprinted the "Mystery" in 1619, nearly at the same time when he published his celebrated work on Harmonics; and the extravagance of the latter publication does not at all lose in comparison with its predecessor. It is dedicated to James I. of England, and divided into five books: "The first, Geometrical, on the origin and demonstration of the laws of the figures which produce harmonious proportions;—the second, Architectonical, on figurate geometry, and the congruence of plane and solid regular figures;—the third, properly Harmonic, on the derivation of musical proportions from figures, and on the nature and distinction of things relating to song, in opposition to the old theories;—the fourth, Metaphysical, Psychological, and Astrological, on the mental essence of harmonies, and of their kinds in the world, especially on the harmony of rays emanating on the earth from the heavenly bodies, and on their effect in nature, and on the sublunary and human soul;—the fifth, Astronomical and Metaphysical, on the very exquisite harmonies of the celestial motions, and the origin of the excentricities in harmonious proportions."

The two first books are almost strictly, as Kepler styles them, geometrical, relating in great measure to the inscription of regular polygons in a circle. The following passage is curious, presenting an analogous idea to that contained in one of the extracts already given from the Commentaries on Mars. "The heptagon, and all other polygons and stars beyond it, which have a prime number of sides, and all other figures derived from them, cannot be inscribed geometrically in a circle; although their sides have a necessary magnitude, it is equally a matter of necessity that we remain ignorant of it. This is a ques-

tion of great importance, for on this account is it that the heptagon, and other figures of this kind, have not been employed by God in the adornment of the world, as the other intelligible figures are employed which have been already explained." Kepler then introduces the algebraical equation, on the solution of which this problem depends, and makes a remark which is curious at this period of the history of algebra—that the root of an equation which cannot be accurately found, may yet be found within any degree of approximation by an expert calculator. In conclusion he again remarks that "the side of the heptagon has no place among scientific existences, since its formal description is impossible, and therefore it cannot be known by the human mind, since the possibility of description precedes the possibility of knowledge; nor is it known even by the simple eternal act of an omniscient mind, because its nature belongs to things which cannot be known. And yet this scientific nonentity has some scientific properties, for if a heptagon were described in a circle, the proportion of its sides would have analogous proportions."

The third book is a treatise on music, in the confined and ordinary sense in which we now use that word, and apparently a sober and rational one, at least as nearly so as Kepler could be trusted to write on a subject so dangerous to his discretion. All the extravagance of the work seems reserved for the fourth book, the title of which already conveys some notion of the nature of its contents. In this book he has collected the substance of the astrological opinions scattered through his other works. We shall content ourselves with merely citing his own words, without any attempt to explain the difference between the astrology which he believed, and that which he contemptuously rejected. The distinctive line seems very finely drawn, and as both one and the other are now discarded by all who enjoy the full use of their reasoning powers, it is not of much consequence that it should be accurately traced.

It is to be observed, that he does not in this treatise modify or recant anything of his earlier opinions, but refers to the favourable judgment of his contemporary philosophers as a reason for embodying them in a regular form. "Since many very celebrated professors of philosophy and medicine are of opinion

that I have created a new and most true philosophy, this tender plant, like all novelties, ought to be carefully nursed and cherished, so that it may strike root in the minds of philosophers, and not be choked by the excessive humours of vain sophistications, or washed away by the torrents of vulgar prejudices, or frozen by the chill of public neglect; and if I succeed in guarding it from these dangers, I have no fear that it will be crushed by the storms of calumny, or parched by the sun of sterling criticism."

One thing is very remarkable in Kepler's creed, that he whose candour is so indisputable in every other part of his conduct, professed to have been forced to adopt his astrological opinions from direct and positive observation.—"It is now more than twenty years since I began to maintain opinions like these on the predominant nature of the elements, which, adopting the common name, I call sublunary. I have been driven to this not by studying or admiring Plato, but singly and solely by observing seasons, and noting the aspects by which they are produced. I have seen the state of the atmosphere almost uniformly disturbed as often as the planets are in conjunction, or in the other configurations so celebrated among astrologers. I have noticed its tranquil state, either when there are none or few such aspects, or when they are transitory and of short duration. I have not formed an opinion on this matter without good grounds, like the common herd of prophesiers, who describe the operations of the stars as if they were a sort of deities, the lords of heaven and earth, and producing everything at their pleasure. They never trouble themselves to consider what means the stars have of working any effects among us on the earth, whilst they remain in the sky, and send down nothing to us which is obvious to the senses except rays of light. This is the principal source of the filthy astrological superstitions of that vulgar and childish race of dreamers, the prognosticators."

The real manner in which the configurations of the stars operate, according to Kepler, is as follows:—"Like one who listens to a sweet melodious song, and by the gladness of his countenance, by his voice, and by the beating of his hand or foot attuned to the music, gives token that he perceives and approves the harmony: just so does sublunary nature, with the notable and evident

emotion of the bowels of the earth, bear like witness to the same feelings, especially at those times when the rays of the planets form harmonious configurations on the earth."—"I have been confirmed in this theory by that which might have deterred others; I mean, by observing that the emotions do not agree nicely with the instants of the configurations; but the earth sometimes appears lazy and obstinate, and at another time (after important and long-continued configurations) she becomes exasperated, and gives way to her passion, even without the continuation of aspects. For in fact the earth is not an animal like a dog, ready at every nod; but more like a bull, or an elephant, slow to become angry, and so much the more furious when incensed."

This singular doctrine must not be mistaken for one of Kepler's favourite allegories; he actually and literally professed to believe that the earth was an enormous living animal; and he has enumerated, with a particularity of details into which we forbear to follow him, the analogies he recognized between its habits and those of men and other animals. A few samples of these may speak for the rest. "If any one who has climbed the peaks of the highest mountains throw a stone down their very deep clefts, a sound is heard from them; or if he throw it into one of the mountain lakes, which beyond doubt are bottomless, a storm will immediately arise, just as when you thrust a straw into the ear or nose of a ticklish animal, it shakes its head, or runs shuddering away. What so like breathing, especially of those fish who draw water into their mouths and spout it out again through their gills, as that wonderful tide! For although it is so regulated according to the course of the moon, that, in the preface to my 'Commentaries on Mars,' I have mentioned it as probable that the waters are attracted by the moon as iron is by the loadstone; yet, if any one uphold that the earth regulates its breathing according to the motion of the sun and moon, as animals have daily and nightly alternations of sleep and waking, I shall not think his philosophy unworthy of being listened to; especially if any flexible parts should be discovered in the depths of the earth to supply the functions of lungs or gills."

From the next extract, we must leave the reader to learn as well as he may,

how much Kepler did, and how much he did not believe on the subject of genethliac astrology.—“Hence it is that human spirits, at the time of celestial aspects, are particularly urged to complete the matters which they have in hand. What the goad is to the ox, what the spur or the rowel is to the horse, to the soldier the bell and trumpet, an animated speech to an audience, to a crowd of rustics a performance on the fife and bagpipes, that to all, and especially in the aggregate, is a heavenly configuration of suitable planets; so that every single one is excited in his thoughts and actions, and all become more ready to unite and associate their efforts. For instance, in war you may see that tumults, battles, fights, invasions, assaults, attacks, and panic fears, generally happen at the time of the aspects of Mars and Mercury, Mars and Jupiter, Mars and the Sun, Mars and Saturn, &c. In epidemic diseases, a greater number of persons are attacked at the times of the powerful aspects, they suffer more severely, or even die, owing to the failure of nature in her strife with the disease, which strife (and not the death) is occasioned by the aspect. It is not the sky which does all these things immediately, but the faculty of the vital soul, associating its operation with the celestial harmonies, is the principal agent in this so-called influence of the heavens. Indeed this word influence has so fascinated some philosophers that they prefer raving with the senseless vulgar, to learning the truth with me. This essential property is the principal foundation of that admirable genethliac art. For when anything begins to have its being when that is working harmonies, the sensible harmony of the rays of the planets has peculiar influence on it. This then is the cause why those who are born under a season of many aspects among the planets, generally turn out busy and industrious, whether they accustom themselves from childhood to amass wealth, or are born or chosen to direct public affairs, or finally, have given their attention to study. If any one think that I might be taken as an instance of this last class, I do not grudge him the knowledge of my nativity. I am not checked by the reproach of boastfulness, notwithstanding those who, by speech or conduct, condemn as folly all kinds of writing on this subject; the idiots, the half-learned, the inventors of titles and trappings, to

throw dust in the eyes of the people, and those whom Picus calls the plebeian theologians: among the true lovers of wisdom, I easily clear myself of this imputation, by the advantage of my reader; for there is no one whose nativity or whose internal disposition and temper I can learn so well as I know my own. Well then, Jupiter nearest the nonagesimal had passed by four degrees the trine of Saturn; the Sun and Venus, in conjunction, were moving from the latter towards the former, nearly in sextiles with both: they were also removing from quadratures with Mars, to which Mercury was closely approaching: the moon drew near the trine of the same planet, close to the Bull's Eye, even in latitude. The 25th degree of Gemini was rising, and the 22d of Aquarius culminating. That there was this triple configuration on that day—namely, the sextile of Saturn and the Sun, the sextile of Mars and Jupiter, the quadrature of Mercury and Mars, is proved by the change of weather; for, after a frost of some days, that very day became warmer, there was a thaw and a fall of rain.*”

“I do not wish this single instance to be taken as a defence and proof of all the aphorisms of astrologers, nor do I attribute to the heavens the government of human affairs: what a vast interval still separates these philosophical observations from that folly or madness as it should rather be called. For, following up this example, I knew a lady†, born under nearly the same aspects, whose disposition, indeed, was exceedingly restless, but who not only makes no progress in literature (that is not strange in a woman), but troubles her whole family, and is the cause to herself of deplorable misery. What, in my case, assisted the aspects was—firstly, the fancy of my mother when pregnant with me, a great admirer of her mother-in-law, my grandmother, who had some knowledge of medicine, my grandfather's profession; a second cause is, that I

* This mode of verifying configurations, though something of the boldest, was by no means unusual. On a former occasion Kepler, wishing to cast the nativity of his friend Zehentmaier, and being unable to procure more accurate information than that he was born about three o'clock in the afternoon of the 21st of October, 1581, supplied the deficiency by a record of fevers and accidents at known periods of his life, from which he deduced a more exact horoscope.

† Kepler probably meant his own mother, whose horoscope he in many places declared to be nearly the same as his own.

was born a male, and not a female, for astrologers have sought in vain to distinguish sexes in the sky; thirdly, I derive from my mother a habit of body, more fit for study than other kinds of life; fourthly, my parents' fortune was not large, and there was no landed property to which I might succeed and become attached; fifthly, there were the schools, and the liberality of the magistracy towards such boys as were apt for learning. But now if I am to speak of the result of my studies, what I pray can I find in the sky, even remotely alluding to it. The learned confess that several not despicable branches of philosophy have been newly extricated or amended or brought to perfection by me: but here my constellations were, not Mercury from the east, in the angle of the seventh, and in quadratures with Mars, but Copernicus, but Tycho Brahe, without whose books of observations everything now set by me in the clearest light must have remained buried in darkness; not Saturn predominating Mercury, but my Lords the Emperors Rodolph and Matthias; not Capricorn, the house of Saturn, but Upper Austria, the home of the Emperor, and the ready and unexampled bounty of his nobles to my petition. Here is that corner, not the western one of the horoscope, but on the Earth, whither, by permission of my imperial master, I have betaken myself from a too uneasy court; and whence, during these years of my life, which now tends towards its setting, emanate these Harmonies, and the other matters on which I am engaged."

"However, it may be owing to Jupiter's ascendancy that I take greater delight in the application of geometry to physics, than in that abstract pursuit which partakes of the dryness of Saturn; and it is perhaps the gibbous moon, in the bright constellation of the Bull's forehead, which fills my mind with fantastic images."

The most remarkable thing contained in the 5th Book, is the announcement of the celebrated law connecting the mean distances of the planets with the periods of their revolution about the Sun. This law is expressed in mathematical language, by saying that the squares of the times vary as the cubes of the distances*. Kepler's rapture on detecting it was unbounded, as may be

seen from the exulting rhapsody with which he announced it. "What I prophesied two-and-twenty years ago, as soon as I discovered the five solids among the heavenly orbits — what I firmly believed long before I had seen Ptolemy's 'Harmonics' — what I had promised my friends in the title of this book, which I named before I was sure of my discovery — what, sixteen years ago, I urged as a thing to be sought — that for which I joined Tycho Brahe, for which I settled in Prague, for which I have devoted the best part of my life to astronomical contemplations, at length I have brought to light, and have recognized its truth beyond my most sanguine expectations. Great as is the absolute nature of Harmonics with all its details, as set forth in my third book, it is all found among the celestial motions, not indeed in the manner which I imagined, (that is not the least part of my delight,) but in another very different, and yet most perfect and excellent. It is now eighteen months since I got the first glimpse of light, three months since the dawn, very few days since the unveiled sun, most admirable to gaze on, burst out upon me. Nothing holds me; I will indulge in my sacred fury; I will triumph over mankind by the honest confession, that I have stolen the golden vases of the Egyptians*, to build up a tabernacle for my God far away from the confines of Egypt. If you forgive me, I rejoice; if you are angry, I can bear it: the die is cast, the book is written; to be read either now or by posterity, I care not which: it may well wait a century for a reader, as God has waited six thousand years for an observer."

He has told, with his usual particularity, the manner and precise moment of the discovery. "Another part of my 'Cosmographical Mystery,' suspended twenty-two years ago, because it was then undetermined, is completed and introduced here, after I had discovered the true intervals of the orbits, by means of Brahe's observations, and had spent the continuous toil of a long time in investigating the true proportion of the periodic times to the orbits,

*Sera quidem respexit inertem,
Respexit tamen, et longo post tempore venit.*

If you would know the precise moment, the first idea came across me on the 8th March of this year, 1618; but chancing

* See Preliminary Treatise, p. 13.

* In allusion to the Harmonics of Ptolemy.

to make a mistake in the calculation, I rejected it as false. I returned again to it with new force on the 15th May, and it has dissipated the darkness of my mind by such an agreement between this idea and my seventeen years' labour on Brahe's observations, that at first I thought I must be dreaming, and had taken my result for granted in my first assumptions. But the fact is perfect, the fact is certain, that the proportion existing between the periodic times of any two planets is exactly the sesquiquilate proportion of the mean distances of the orbits."

There is high authority for not attempting over anxiously to understand the rest of the work. Delambre sums it up as follows:—"In the music of the celestial bodies it appears that Saturn and Jupiter take the bass, Mars the tenor, the Earth and Venus the counter-tenor, and Mercury the treble." If the patience of this indefatigable historian gave way, as he confesses, in the perusal, any further notice of it here may be well excused. Kepler became engaged, in consequence of this publication, in an angry controversy with the eccentric Robert Fludd, who was at least Kepler's match in wild extravagance and mysticism, if far inferior to him in genius. It is diverting to hear each reproaching the other with obscurity.

In the "Epitome of the Copernican Astronomy," which Kepler published about the same time, we find the manner in which he endeavoured to deduce the beautiful law of periodic times, from his principles of motion and radiation of whirling forces. This work is in fact a summary of all his astronomical opinions, drawn up in a popular style in the form of question and answer. We find there a singular argument against believing, as some did, that each planet is carried round by an angel, for in that case, says Kepler, "the orbits would be perfectly circular; but the elliptic form, which we find in them, rather smacks of the nature of the lever and material necessity."

The investigation of the relation between the periodic times and distances of the planets is introduced by a query whether or not they are to be considered heavy. The answer is given in the following terms:—"Although none of the celestial globes are heavy, in the sense in which we say on earth that a stone is heavy, nor light as fire is light with us, yet have they, by reason of their mate-

riality, a natural inability to move from place to place: they have a natural inertness or quietude, in consequence of which they remain still in every situation where they are placed alone."

"P. Is it then the sun, which by its turning carries round the planets? How can the sun do this, having no hands to seize the planet at so great a distance, and force it round along with itself?—Its bodily virtue, sent forth in straight lines into the whole space of the world, serves instead of hands; and this virtue, being a corporeal species, turns with the body of the sun like a very rapid vortex, and travels over the whole of that space which it fills as quickly as the sun revolves in its very confined space round the centre.

"P. Explain what this virtue is, and belonging to what class of things?—As there are two bodies, the mover and the moved, so are there two powers by which the motion is obtained. The one is passive, and rather belonging to matter, namely, the resemblance of the body of the planet to the body of the sun in its corporeal form, and so that part of the planetary body is friendly, the opposite part hostile to the sun. The other power is active, and bearing more relation to form, namely, the body of the sun has a power of attracting the planet by its friendly part, of repelling it by the hostile part, and finally, of retaining it if it be placed so that neither the one nor the other be turned directly towards the sun.

"P. How can it be that the whole body of the planet should be like or cognate to the body of the sun, and yet part of the planet friendly, part hostile to the sun?—Just as when one magnet attracts another, the bodies are cognate; but attraction takes place only on one side, repulsion on the other.

"P. Whence, then, arises that difference of opposite parts in the same body?—In magnets the diversity arises from the situation of the parts with respect to the whole. In the heavens the matter is a little differently arranged, for the sun does not, like the magnet, possess only on one side, but in all the parts of its substance, this active and energetic faculty of attracting, repelling, or retaining the planet. So that it is probable that the centre of the solar body corresponds to one extremity or pole of the magnet, and its whole surface to the other pole.

"P. If this were so, all the planets

would be restored* in the sametime with the sun?—True, if this were all : but it has been said already that, besides this carrying power of the sun, there is also in the planets a natural inertness to motion, which causes that, by reason of their material substance, they are inclined to remain each in its place. The carrying power of the sun, and the impotence or material inertness of the planet, are thus in opposition. Each shares the victory ; the sun moves the planet from its place, although in some degree it escapes from the chains with which it was held by the sun, and so is taken hold of successively by every part of this circular virtue, or, as it may be called, solar circumference, namely, by the parts which follow those from which it has just extricated itself.

“P. But how does one planet extricate itself more than another from this violence—First, because the virtue emanating from the sun has the same degree of weakness at different distances, as the distances or the width of the circles described on these distances†. This is the principal reason. Secondly, the cause is partly in the greater or less inertness or resistance of the planetary globes, which reduces the proportions to one-half ; but of this more hereafter.

“P. How can it be that the virtue emanating from the sun becomes weaker at a greater distance? What is there to hurt or weaken it?—Because that virtue is corporeal, and partaking of quantity, which can be spread out and rarefied. Then, since there is as much virtue diffused in the vast orb of Saturn as is collected in the very narrow one of Mercury, it is very rare and therefore weak in Saturn’s orbit, very dense and therefore powerful at Mercury.

“P. You said, in the beginning of this inquiry into motion, that the periodic times of the planets are exactly in the sesquuplicate proportion of their orbits or circles : pray what is the cause of this?—Four causes concur for lengthening the periodic time. First, the length of the path ; secondly, the weight or quantity of matter to be carried ; thirdly, the degree of strength of the moving virtue ; fourthly, the bulk or space into which is spread out the matter to be moved.

The circular paths of the planets are in the simple ratio of the distances ; the weights or quantities of matter in different planets are in the subduplicate ratio of the same distances, as has been already proved ; so that with every increase of distance, a planet has more matter, and therefore is moved more slowly, and accumulates more time in its revolution, requiring already as it did more time by reason of the length of the way. The third and fourth causes compensate each other in a comparison of different planets : the simple and subduplicate proportion compound the sesquuplicate proportion, which therefore is the ratio of the periodic times.”

Three of the four suppositions here made by Kepler to explain the beautiful law he had detected, are now indisputably known to be false. Neither the weights nor the sizes of the different planets observe the proportions assigned by him, nor is the force by which they are retained in their orbits in any respect similar in its effects to those attributed by him to it. The wonder which might naturally be felt that he should nevertheless reach the desired conclusion, will be considerably abated on examining the mode in which he arrived at and satisfied himself of the truth of these three suppositions. It has been already mentioned that his notions on the existence of a whirling force emanating from the sun, and decreasing in energy at increased distances, are altogether inconsistent with all the experiments and observations we are able to collect. His reason for asserting that the sizes of the different planets are proportional to their distances from the sun, was simply because he chose to take for granted that either their solidities, surfaces, or diameters, must necessarily be in that proportion, and of the three, the solidities appeared to him least liable to objection. The last element of his precarious reasoning rested upon equally groundless assumptions. Taking as a principle, that where there is a number of different things they must be different in every respect, he declared that it was quite unreasonable to suppose all the planets of the same density. He thought it indisputable that they must be rarer as they were farther from the sun, “and yet not in the proportion of their distances, for thus we should sin against the law of variety in another way, and make the quantity of matter (according to what he had just said of their bulk) the same in

* This is a word borrowed from the Ptolemaic astronomy, according to which the sun and planets are hurried from their places by the daily motion of the *primum mobile*, and by their own peculiar motion seek to regain or be restored to their former places.

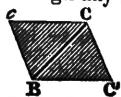
† In other parts of his works Kepler assumes the diminution to be proportional to the circles themselves, not to the diameters.

all. But if we assume the ratio of the quantities of matter to be half that of the distances, we shall observe the best mean of all; for thus Saturn will be half as heavy again as Jupiter, and Jupiter half again as dense as Saturn. And the strongest argument of all is, that unless we assume this proportion of the densities, the law of the periodic times will not answer." This is the *proof* alluded to, and it is clear that by such reasoning any required result might be deduced from any given principles.

It may not be uninteresting to subjoin a sketch of the manner in which Newton established the same celebrated results, starting from principles of motion diametrically opposed to Kepler's, and it need scarcely be added, reasoning upon them in a manner not less different. For this purpose, a very few prefatory remarks will be found sufficient.

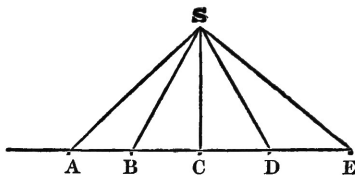
The different motions seen in nature are best analysed and classified by supposing that every body in motion, if left to itself, will continue to move forward at the same rate in a straight line, and by considering all the observed deviations from this manner of moving, as exceptions and disturbances occasioned by some external cause. To this supposed cause is generally given the name of Force, and it is said to be the first law of motion, that, unless acted on by some force, every body at rest remains at rest, and every body in motion proceeds uniformly in a straight line. Many employ this language, without perceiving that it involves a definition of force, on the admission of which, it is reduced to a truism. We see common instances of force in a blow, or a pull from the end of a string fastened to the body: we shall also have occasion presently to mention some forces where no visible connexion exists between the moving body and that towards which the motion takes place, and from which the force is said to proceed.

A second law of motion, founded upon experiment, is this: if a body have motion communicated to it in two directions, by one of which motions alone it would have passed through a given space in a given time, as for instance, through $B C'$ in one second, and by the other alone through any other space $B c$ in the same time, it will, when both are given to it at the same instant, pass in the same time (in the present instance in one second) through $B C$ the



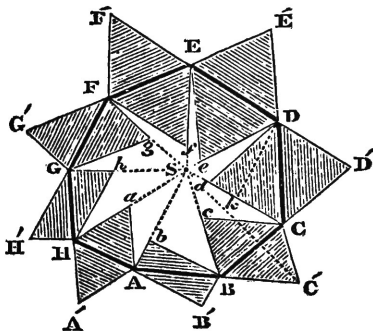
diagonal of the parallelogram of which $B C'$ and $B c$ are sides.

Let a body, acted upon by no force, be moving along the line $A E$; that



means, according to what has been said, let it pass over the equal straight lines $A B, B C, C D, D E$, &c., in equal times. If we take any point S not in the line $A E$, and join $A S, B S$, &c., the triangles $A S B, B S C$, &c. are also equal, having a common altitude and standing on equal bases, so that if a string were conceived reaching from S to the moving body (being lengthened or shortened in each position to suit its distance from S), this string, as the body moved along $A E$, would sweep over equal triangular areas in equal times.

Let us now examine how far these



conclusions will be altered if the body from time to time is forced towards S . We will suppose it moving uniformly from A to B as before, no matter for the present how it got to A , or into the direction $A B$. If left to itself it would, in an equal time (say $1''$) go through $B C'$ in the same straight line with and equal to $A B$. But just as it reaches B , and is beginning to move along $B C'$, let it be suddenly pulled towards S with a motion which, had it been at rest, would have carried it in the same time, $1''$, through any other space $B c$. According to the second law of motion, its direction during this $1''$, in consequence of the two motions combined, will be along $B C$, the diagonal of the parallelogram of which $B C'$, $B c$ are sides. In

this case, as this figure is drawn, B C, though passed in the same time, is longer than A B; that is to say, the body is moving quicker than at first. How is it with the triangular areas, supposed as before to be swept by a string constantly stretched between S and the body? It will soon be seen that these still remain equal, notwithstanding the change of direction, and increased swiftness. For since C C' is parallel to B c, the triangles S C B, S C' B are equal, being on the same base S B, and between the same parallels S B, C C', and S C' B is equal to S B A as before, therefore S C B, S B A are equal. The body is now moving uniformly (though quicker than along A B) along B C. As before, it would in a time equal to the time of passing along B C, go through an equal space C D' in the same straight line. But if at C it has a second pull towards S, strong enough to carry it to d in the same time, its direction will change a second time to C D, the diagonal of the parallelogram, whose sides are C D', C d; and the circumstances being exactly similar to those at the first pull, it is shewn in the same manner that the triangular area S D C = S C B = S B A.

Thus it appears, that in consequence of these intermitting pulls towards S, the body may be moving round, sometimes faster, sometimes slower, but that the triangles formed by any of the straight portions of its path (which are all described in equal times), and the lines joining S to the ends of that portion, are all equal. The path it will take depends of course, in other respects, upon the frequency and strength of the different pulls, and it might happen, if they were duly proportionate, that when at H, and moving off in the direction H A', the pull H a might be such as just to carry the body back to A, the point from which it started, and with such a motion, that after one pull more, A b, at A, it might move along A B as it did at first. If this were so, the body would continue to move round in the same polygonal path, alternately approaching and receding from S, as long as the same pulls were repeated in the same order, and at the same intervals.

It seems almost unnecessary to remark, that the same equality which subsists between any two of these triangular areas subsists also between an equal number of them, from whatever part of the path taken; so that, for instance, the four paths A B, B C, C D, D E, cor-

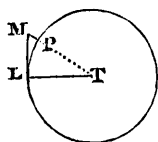
responding to the four areas A S B, B S C, C S D, D S E, that is, to the area A B C D E S, are passed in the same time as the four E F, F G, G H, H A, corresponding to the equal area E F G H A S. Hence it may be seen, if the whole time of revolution from A round to A again be called a year, that in half a year the body will have got to E, which in the present figure is more than half way round, and so of any other periods.

The more frequently the pulls are supposed to recur, the more frequently will the body change its direction; and if the pull were supposed constantly exerted in the direction towards S, the body would move in a curve round S, for no three successive positions of it could be in a straight line. Those who are not familiar with the methods of measuring curvilinear spaces must here be contented to observe, that the law holds, however close the pulls are brought together, and however closely the polygon is consequently made to resemble a curve: they may, if they please, consider the minute portions into which the curve is so divided, as differing insensibly from little rectilinear triangles, any equal number of which, according to what has been said above, wherever taken in the curve, would be swept in equal times. The theorem admits, in this case also, a rigorous proof; but it is not easy to make it entirely satisfactory, without entering into explanations which would detain us too long from our principal subject.

The proportion in which the pull is strong or weak at different distances from the central spot, is called "*the law of the central or centripetal force*," and it may be observed, that after assuming the laws of motion, our investigations cease to have anything hypothetical or experimental in them; and that if we wish, according to these principles of motion, to determine the law of force necessary to make a body move in a curve of any required form, or conversely to discover the form of the curve described, in consequence of any assumed law of force, the inquiry is purely geometrical, depending upon the nature and properties of geometrical quantities only. This distinction between what is hypothetical, and what necessary truth, ought never to be lost sight of.

As the object of the present treatise is not to teach geometry, we shall de-

scribe, in very general terms, the manner in which Newton, who was the first who systematically extended the laws of motion to the heavenly bodies, identified their results with the two remaining laws of Kepler. His "Principles of Natural Philosophy" contain general propositions with regard to any law of centripetal force, but that which he supposed to be the true one in our system, is expressed in mathematical language, by saying that the centripetal force varies inversely as the square of the distance, which means, that if the force at any distance be taken for the unit of force, at half that distance, it is two times twice, or four times as strong; at one-third the distance, three times thrice, or nine times as strong, and so for other distances. He shewed the probability of this law in the first instance by comparing the motion of the moon with that of heavy bodies at the surface of the



earth. Taking LP to represent part of the moon's orbit described in one minute, the line PM between the orbit and the tangent at L would shew the space through which the central force at the earth (assuming the above principles of motion to be correct) would draw the moon. From the known distance and motion of the moon, this line PM is found to be about sixteen feet. The distance of the moon is about sixty times the radius of the earth, and therefore if the law of the central force in this instance were such as has been supposed, the force at the earth's surface would be 60 times 60, or 3600 times stronger, and at the earth's surface, the central force would make a body fall through 3600 times 16 feet in one minute. Galileo had already taught that the spaces through which a body would be made to fall, by the constant action of the same unvarying force, would be proportional to the squares of the times during which the force was exerted, and therefore according to these laws, a body at the earth's surface ought (since there are sixty seconds in a minute) to fall through 16 feet in one second, which was precisely the space previously established by numerous experiments.

With this confirmation of the supposition, Newton proceeded to the purely geometrical calculation of the law of centripetal* force necessary to make a

moving body describe an ellipse round its focus, which Kepler's observations had established to be the form of the orbits of the planets round the sun. The result of the inquiry shewed that this curve required the same law of the force, varying inversely as the square of the distance, which therefore of course received additional confirmation. His method of doing this may, perhaps, be understood by referring to the last figure but one, in which Cd , for instance, representing the space fallen from any point C towards S , in a given time, and the area CSD being proportional to the corresponding time, the space through which the body would have fallen at C in any other time (which would be greater, by Galileo's law, in proportion to the squares of the times), might be represented by a quantity varying directly as Cd , and inversely in the duplicate proportion of the triangular area CSD , that is to say, proportional to

$\frac{Cd}{(SC \times Dk)^2}$, if Dk be drawn from D

perpendicular on SC . If this polygon represent an ellipse, so that CD represents a small arc of the curve, of which S is the focus, it is found by the nature

of that curve, that $\frac{Cd}{(Dk)^2}$ is the same at all points of the curve, so that the law of variation of the force in the same ellipse

is represented solely by $\frac{1}{(SC)^2}$. If Cd ,

&c. are drawn so that $\frac{Cd}{(Dk)^2}$ is not the

same at every point, the curve ceases to be an ellipse whose focus is at S , as Newton has shewn in the same work.

The line to which $\frac{(Dk)^2}{Cd}$ is found to be

equal, is one drawn through the focus at right angles to the longest axis of the ellipse till it meets the curve;—this line is called the *latus rectum*, and is a third proportional to the two principal axes.

Kepler's third law follows as an immediate consequence of this determination; for, according to what has been already shown, the time of revolution round the whole ellipse, or, as it is com-

there is a point to which* the name of centre is given, on account of peculiar properties belonging to it: but the term "centripetal force" always refers to the place towards which the force is directed, whether or not situated in the centre of the curve.

* In many curves, as in the circle and ellipse,

monly called, the periodic time, bears the same ratio to the unit of time as the whole area of the ellipse does to the area described in that unit. The area of the whole ellipse is proportional in different ellipses to the rectangle contained by the two principal axes, and the area described in an unit of time is proportional to $SC \times Dk$, that is to say, is in the subduplicate ratio of $SC^2 \times Dk^2$, or $\frac{Dk^2}{Cd}$,

when the force varies inversely as the square of the distance SC ; and in the ellipse, as we have said already, this is equal to a third proportional to the principal axes; consequently the periodic times in different ellipses, which are proportional to the whole areas of the ellipses directly, and the areas described in the unit of time inversely, are in the compound ratio of the rectangle of the axes directly, and subduplicately as a third proportional to the axes inversely; that is to say, the squares of these times are proportional to the cubes of the longest axes, which is Kepler's law.

CHAPTER VIII.

The Epitome prohibited at Rome—Logarithmic Tables—Trial of Catharine Kepler—Kepler invited to England—Rudolphine Tables—Death—Conclusion.

KEPLER'S "Epitome," almost immediately on its appearance, enjoyed the honour of being placed by the side of the work of Copernicus, on the list of books prohibited by the congregation of the Index at Rome. He was considerably alarmed on receiving this intelligence, anticipating that it might occasion difficulties in publishing his future writings. His words to Remus, who had communicated the news to him, are as follows:—"I learn from your letter, for the first time, that my book is prohibited at Rome and Florence. I particularly beg of you, to send me the exact words of the censure, and that you will inform me whether that censure would be a snare for the author, if he were caught in Italy, or whether, if taken, he would be enjoined a recantation. It is also of consequence for me to know whether there is any chance of the same censure being extended into Austria. For if this be so, not only shall I never again find a printer there, but also the copies which the bookseller has left in Austria at my desire will be endangered, and the ultimate

loss will fall upon me. It will amount to giving me to understand, that I must cease to profess Astronomy, after I have grown old in the belief of these opinions, having been hitherto gainsayed by no one,—and, in short, I must give up Austria itself, if room is no longer to be left in it for philosophical liberty." He was, however, tranquillized, in a great degree, by the reply of his friend, who told him that "the book is only prohibited as contrary to the decree pronounced by the holy office two years ago. This has been partly occasioned by a Neapolitan monk (Foscarini), who was spreading these notions by publishing them in Italian, whence were arising dangerous consequences and opinions: and besides, Galileo was at the same time pleading his cause at Rome with too much violence. Copernicus has been corrected in the same manner for some lines, at least in the beginning of his first book. But by obtaining a permission, they may be read (and, as I suppose, this "Epitome" also) by the learned and skilful in this science, both at Rome and throughout all Italy. There is therefore no ground for your alarm, either in Italy or Austria; only keep yourself within bounds, and put a guard upon your own passions."

We shall not dwell upon Kepler's different works on comets, beyond mentioning that they were divided, on the plan of many of his other publications, into three parts, Astronomical, Physical, and Astrological. He maintained that comets move in straight lines, with a varying degree of velocity. Later theories have shewn that they obey the same laws of motion as the planets, differing from them only in the extreme eccentricity of their orbits. In the second book, which contains the Physiology of Comets, there is a passing remark that comets come out from the remotest parts of ether, as whales and monsters from the depth of the sea; and the suggestion is thrown out that perhaps comets are something of the nature of silkworms, and are wasted and consumed in spinning their own tails.

Among his other laborious employments, Kepler yet found time to calculate tables of logarithms, he having been one of the first in Germany to appreciate the full importance of the facilities they afford to the numerical calculator. In 1618 he wrote to his friend Schickhard: "There is a Scottish Baron (whose name has escaped my memory), who has made a famous contrivance, by which

all need of multiplication and division is supplied by mere addition and subtraction; and he does it without sines. But even he wants a table of tangents *, and the variety, frequency, and difficulty of the additions and subtractions, in some cases, is greater than the labour of multiplying and dividing."

Kepler dedicated his "Ephemeris" for 1620 to the author of this celebrated invention, Baron Napier, of Merchistoun; and in 1624, published what he called "Chilias Logarithmorum," containing the Napierian logarithms of the quotients of 100,000 divided by the first ten numbers, then proceeding by the quotients of every ten to 100, and by hundreds to 100,000. In the supplement published the following year, is a curious notice of the manner in which this subtle contrivance was at first received: "In the year 1621, when I had gone into Upper Austria, and had conferred everywhere with those skilled in mathematics, on the subject of Napier's logarithms, I found that those whose prudence had increased, and whose readiness had diminished, through age, were hesitating whether to adopt this new sort of numbers, instead of a table of sines; because they said it was disgraceful to a professor of mathematics to exult like a child at some compendious method of working, and meanwhile to admit a form of calculation, resting on no legitimate proof, and which at some time might entangle us in error, when we least feared it. They complained that Napier's demonstration rested on a fiction of geometrical motion, too loose and slippery for a sound method of reasonable demonstration to be founded on it†. "This led

me forthwith to conceive the germ of a legitimate demonstration, which during that same winter I attempted, without reference to lines or motion, or flow, or any other which I may call sensible quality."

"Now to answer the question; what is the use of logarithms? Exactly what ten years ago was announced by their author, Napier, and which may be told in these words.—Wheresoever in common arithmetic, and in the Rule of Three, cometo numbers to be multiplied together, there the sum of the logarithms is to be taken; where one number is to be divided by another, the difference; and the number corresponding to this sum or difference, as the case may be, will be the required product or quotient. This, I say, is the use of logarithms. But in the same work in which I gave the demonstration of the principles, I could not satisfy the unfledged arithmetical chickens, greedy of facilities, and gaping with their beaks wide open, at the mention of this use, as if to bolt down every particular goblet, till they are crammed with my precepticles."

The year 1622 was marked by the catastrophe of a singular adventure which befell Kepler's mother, Catharine, then nearly seventy years old, and by which he had been greatly harassed and annoyed during several years. From her youth she had been noted for a rude and passionate temper, which on the present occasion involved her in serious difficulties. One of her female acquaintance, whose manner of life had been by no means unblemished, was attacked after a miscarriage by violent headaches, and Catharine, who had often taken occasion to sneer at her notorious reputation, was accused with having produced these consequences, by the administration of poisonous potions. She repelled the charge with violence, and instituted an action of scandal against this person, but was unlucky (according to Kepler's statement) in the choice of a young doctor, whom she employed as her advocate. Considering the suit to be very instructive, he delayed its termination during five years, until the judge before whom it was tried was displaced. He was succeeded by another, already indisposed against Catharine Kepler, who on some occasion had taunted him with his sudden accession to wealth from a very inferior situation. Her opponent, aware of this advantage, turned the ta-

* The meaning of this passage is not very clear: Kepler evidently had seen and used logarithms at the time of writing this letter; yet there is nothing in the method to justify this expression,—"*At tamen opus est ipsi Tangentium canone.*"

† This was the objection originally made to Newton's "Fluxions," and in fact, Napier's idea of logarithms is identical with that method of conceiving quantities. This may be seen at once from a few of his definitions,

1 Def. A line is said to increase uniformly, when the point by which it is described passes through equal intervals, in equal times.

2 Def. A line is said to diminish to a shorter one proportionally, when the point passing along it cuts off in equal times segments proportional to the remainder.

6 Def. The logarithm of any sine is the number most nearly denoting the line, which has increased uniformly, whilst the radius has diminished to that sine proportionally, the initial velocity being the same in both motions. (*Mirifici logarithmorum canonis descriptio*, Edinburgi 1614.)

This last definition contains what we should now call the differential equation between a number and the logarithm of its reciprocal.

bles on her, and in her turn became the accuser. The end of the matter was, that in July, 1620, Catharine was imprisoned, and condemned to the torture. Kepler was then at Linz, but as soon as he learned his mother's danger, hurried to the scene of trial. He found the charges against her supported only by evidence which never could have been listened to, if her own intemperate conduct had not given advantage to her adversaries. He arrived in time to save her from the question, but she was not finally acquitted and released from prison till November in the following year. Kepler then returned to Linz, leaving behind him his mother, whose spirit seemed in no degree broken by the unexpected turn in the course of her litigation. She immediately commenced a new action for costs and damages against the same antagonist, but this was stopped by her death, in April 1622, in her seventy-fifth year.

In 1620 Kepler was visited by Sir Henry Wotton, the English ambassador at Venice, who finding him, as indeed he might have been found at every period of his life, oppressed by pecuniary difficulties, urged him to go over to England, where he assured him of a welcome and honourable reception; but Kepler could not resolve upon the proposed journey, although in his letters he often returned to the consideration of it. In one of them, dated a year later, he says, "The fires of civil war are raging in Germany—they who are opposed to the honour of the empire are getting the upper hand—everything in my neighbourhood seems abandoned to flame and destruction. Shall I then cross the sea, whither Wotton invites me? I, a German? a lover of firm land? who dread the confinement of an island? who pre-empt its dangers, and must drag along with me my little wife and flock of children? Besides my son Louis, now thirteen years old, I have a marriageable daughter, a two-year old son by my second marriage, an infant daughter, and its mother but just recovering from her confinement." Six years later, he says again,—“As soon as the Rudolphine Tables are published, my desire will be to find a place where I can lecture on them to a considerable assembly; if possible, in Germany; if not, why then in Italy, France, the Netherlands, or England, provided the salary is adequate for a traveller.”

In the same year in which he received

this invitation an affront was put upon Kepler by his early patrons, the States of Styria, who ordered all the copies of his "Calendar," for 1624, to be publicly burnt. Kepler declares that the reason of this was, that he had given precedence in the title-page to the States of Upper Ens, in whose service he then was, above Styria. As this happened during his absence in Wirtemberg, it was immediately coupled by rumour with his hasty departure from Linz: it was said that he had incurred the Emperor's displeasure, and that a large sum was set upon his head. At this period Matthias had been succeeded by Ferdinand III., who still continued to Kepler his barren title of imperial mathematician.

In 1624 Kepler went to Vienna, in the hopes of getting money to complete the Rudolphine Tables, but was obliged to be satisfied with the sum of 6000 florins and with recommendatory letters to the States of Suabia, from whom he also collected some money due to the emperor. On his return he revisited the University of Tübingen, where he found his old preceptor, Mästlin, still alive, but almost worn out with old age. Mästlin had well deserved the regard Kepler always appears to have entertained for him; he had treated him with great liberality whilst at the University, where he refused to receive any remuneration for his instruction. Kepler took every opportunity of shewing his gratitude; even whilst he was struggling with poverty he contrived to send his old master a handsome silver cup, in acknowledging the receipt of which Mästlin says,—“Your mother had taken it into her head that you owed me two hundred florins, and had brought fifteen florins and a chandelier towards reducing the debt, which I advised her to send to you. I asked her to stay to dinner, which she refused: however, we handselled your cup, as you know she is of a thirsty temperament.”

The publication of the Rudolphine Tables, which Kepler always had so much at heart, was again delayed, notwithstanding the recent grant, by the disturbances arising out of the two parties into which the Reformation had divided the whole of Germany. Kepler's library was sealed up by desire of the Jesuits, and nothing but his connexion with the Imperial Court secured to him his own personal indemnity. Then followed a popular insurrection, and the

peasantry blockaded Linz, so that it was not until 1627 that these celebrated tables finally made their appearance, the earliest calculated on the supposition that the planets move in elliptic orbits. Ptolemy's tables had been succeeded by the "Alphonsine," so called from Alphonso, King of Castile, who, in the thirteenth century, was an enlightened patron of astronomy. After the discoveries of Copernicus, these again made way for the Prussian, or Prutenic tables, calculated by his pupils Reinhold and Rheticus. These remained in use till the observations of Tycho Brahe showed their insufficiency, and Kepler's new theories enabled him to improve upon them. The necessary types for these tables were cast at Kepler's own expense. They are divided into four parts, the first and third containing a variety of logarithmic and other tables, for the purpose of facilitating astronomical calculations. In the second are tables of the elements of the sun, moon, and planets. The fourth gives the places of 1000 stars as determined by Tycho, and also at the end his table of refractions, which appears to have been different for the sun, moon, and stars. Tycho Brahe assumed the horizontal refraction of the sun to be $7' 30''$, of the moon $8'$, and of the other stars $3'$. He considered all refraction of the atmosphere to be insensible above 45° of altitude, and even at half that altitude in the case of the fixed stars. A more detailed account of these tables is here obviously unsuitable: it will be sufficient to say merely, that if Kepler had done nothing in the course of his whole life but construct these, he would have well earned the title of a most useful and indefatigable calculator.

Some copies of these tables have prefixed to them a very remarkable map, divided by hour lines, the object of which is thus explained:—

"The use of this nautical map is, that if at a given hour the place of the moon is known by its edge being observed to touch any known star, or the edges of the sun, or the shadow of the earth; and if that place shall (if necessary) be reduced from apparent to real by clearing it of parallax; and if the hour at Uraniburg be computed by the Rudolphine tables, when the moon occupied that true place, the difference will show the observer's meridian, whether the picture of the shores be accurate or not,

for by this means it may come to be corrected."

This is probably one of the earliest announcements of the method of determining longitudes by occultations; the imperfect theory of the moon long remained a principal obstacle to its introduction in practice. Another interesting passage connected with the same object may be introduced here. In a letter to his friend Cruger, dated in 1616, Kepler says: "You propose a method of observing the distances of places by sundials and automata. It is good, but needs a very accurate practice, and confidence in those who have the care of the clocks. Let there be only one clock, and let it be transported; and in both places let meridian lines be drawn with which the clock may be compared when brought. The only doubt remaining is, whether a greater error is likely from the unequal tension in the automaton, and from its motion, which varies with the state of the air, or from actually measuring the distances. For if we trust the latter, we can easily determine the longitudes by observing the differences of the height of the pole."

In an Appendix to the Rudolphine Tables, or, as Kepler calls it, "an alms doled out to the nativity casters," he has shown how they may use his tables for their astrological predictions. Everything in his hands became an allegory; and on this occasion he says,—"Astronomy is the daughter of Astrology, and this modern Astrology, again, is the daughter of Astronomy, bearing something of the lineaments of her grandmother; and, as I have already said, this foolish daughter, Astrology, supports her wise but needy mother, Astronomy, from the profits of a profession not generally considered creditable."

Soon after the publication of these tables, the Grand Duke of Tuscany sent him a golden chain; and if we remember the high credit in which Galileo stood at this time in Florence, it does not seem too much to attribute this honourable mark of approbation to his representation of the value of Kepler's services to astronomy. This was soon followed by a new and final change in his fortunes. He received permission from the emperor to attach himself to the celebrated Duke of Friedland, Albert Wallenstein; one of the most remarkable men in the history of that time.

Wallenstein was a firm believer in astrology, and the reception Kepler experienced by him was probably due, in great measure, to his reputation in that art. However that may be, Kepler found in him a more munificent patron than any one of his three emperors; but he was not destined long to enjoy the appearance of better fortune. Almost the last work which he published was a commentary on the letter addressed, by the missionary Terrentio, from China, to the Jesuits at Ingolstadt. The object of this communication was to obtain from Europe means for carrying into effect a projected scheme for improving the Chinese calendar. In this essay Kepler maintains the opinion, which has been discussed with so much warmth in more modern times, that the pretended ancient observations of the Chinese were obtained by computing them backwards from a much more recent date. Wallenstein furnished him with an assistant for his calculations, and with a printing press; and through his influence nominated him to the professorship in the University of Rostoch, in the Duchy of Mecklenburg. His claims on the imperial treasury, which amounted at this time to 8000 crowns, and which Ferdinand would gladly have transferred to the charge of Wallenstein, still remained unsatisfied. Kepler made a last attempt to obtain them at Ratisbon, where the imperial meeting was held, but without success. The fatigue and vexation occasioned by his fruitless journey brought on a fever, which unexpectedly put an end to his life, in the early part of November, 1630, in his fifty-ninth year. His old master, Mästlin, survived him for about a year, dying at the age of eighty-one.

Kepler left behind him two children by his first wife, Susanna and Louis; and three sons and two daughters, Sebald, Cordelia, Friedman, Hildebert, and Anna Maria, by his widow. Susanna married, a few months before her father's death, a physician named Jacob Bartsch, the same who latterly assisted Kepler in preparing his "Ephemeris." He died very shortly after Kepler himself. Louis studied medicine, and died in 1663, whilst practising as a physician at Königsberg. The other children died young.

Upon Kepler's death the Duke of Friedland caused an inventory to be taken of his effects, when it appeared that near

24,000 florins were due to him, chiefly on account of his salary from the emperor. His daughter Susanna, Bartsch's widow, managed to obtain a part of these arrears by refusing to give up Tycho Brahe's observations till her claims were satisfied. The widow and younger children were left in very straitened circumstances, which induced Louis, Kepler's eldest son, to print, for their relief, one of his father's works, which had been left by him unpublished. It was not without much reluctance, in consequence of a superstitious feeling which he did not attempt to conceal or deny. Kepler himself, and his son-in-law, Bartsch, had been employed in preparing it for publication at the time of their respective deaths; and Louis confessed that he did not approach the task without apprehension that he was incurring some risk of a similar fate. This little rhapsody is entitled a "Dream on Lunar Astronomy;" and was intended to illustrate the appearances which would present themselves to an astronomer living upon the moon.

The narrative in the dream is put into the mouth of a personage, named Duracoto, the son of an Icelandic enchantress, of the name of Fiolxhildis. Kepler tells us that he chose the last name from an old map of Europe in his house, in which Iceland was called Fiolx: Duracoto seemed to him analogous to the names he found in the history of Scotland, the neighbouring country. Fiolxhildis was in the habit of selling winds to mariners, and used to collect herbs to use in her incantations on the sides of Mount Hecla, on the Eve of St. John. Duracoto cut open one of his mother's bags, in punishment of which she sold him to some traders, who brought him to Denmark, where he became acquainted with Tycho Brahe. On his return to Iceland, Fiolxhildis received him kindly, and was delighted with the progress he had made in astronomy. She then informed him of the existence of certain spirits, or demons, from whom, although no traveller herself, she acquired a knowledge of other countries, and especially of a very remarkable country, called Livania. Duracoto requesting further information, the necessary ceremonies were performed for invoking the demon; Duracoto and his mother enveloped their heads in their clothing, and presently "the screaming of a harsh dissonant voice began to speak

in the Icelandic tongue." The island of Livania is situated in the depths of ether, at the distance of about 250000 miles; the road thence or thither is very seldom open, and even when it is passable, mankind find the journey a most difficult and dangerous one. The demon describes the method employed by his fellow spirits to convey such travellers as are thought fit for the undertaking: "We bring no sedentary people into our company, no corpulent or delicate persons; but we pick out those who waste their life in the continual use of post-horses, or who sail frequently to the Indies; who are accustomed to live upon biscuit, garlic, dried fish, and such abominable feeding. Those withered old hags are exactly fit for us, of whom the story is familiar that they travel immense distances by night on goats, and forks, and old petticoats. The Germans do not suit us at all; but we do not reject the dry Spaniards." This extract will probably be sufficient to show the style of the work. The inhabitants of Livania are represented to be divided into two classes, the Privolvans and Subvolvans, by whom are meant those supposed to live in the hemisphere facing the earth, which is called the Volva, and those on the opposite half of the moon: but there is nothing very striking in the account given of the various phenomena as respects these two classes. In some notes which were added some time after the book was first written, are some odd insights into Kepler's method of composing. Fiolxhildis had been made to invoke the dæmon with twenty-one characters; Kepler declares, in a note, that he cannot remember why he fixed on this number, "except because that is the number of letters in *Astronomia Copernicana*, or because there are twenty-one combinations of the planets, two together, or because there are twenty-one different throws upon two dice." The dream is abruptly terminated by a storm, in which, says Kepler, "I suddenly waked; the Demon, Duracoto, and Fiolxhildis were gone, and instead of their covered heads, I found myself rolled up among the blankets."

Besides this trifle, Kepler left behind him a vast mass of unpublished writings, which came at last into the hands of his biographer, Hantsch. In 1714, Hantsch issued a prospectus for publishing them by subscription, in twenty-two folio

volumes. The plan met no encouragement, and nothing was published but a single folio volume of letters to and from Kepler, which seem to have furnished the principal materials for the memoir prefixed to them. After various unavailing attempts to interest different learned bodies in their appearance, the manuscripts were purchased for the library at St. Petersburg, where Euler, Lexell, and Kraft, undertook to examine them, and select the most interesting parts for publication. The result of this examination does not appear.

Kepler's body was buried in St. Peter's churchyard at Ratisbon, and a simple inscription was placed on his tombstone. This appears to have been destroyed not long after, in the course of the wars which still desolated the country. In 1786, a proposal was made to erect a marble monument to his memory, but nothing was done. Kästner, on whose authority it is mentioned, says upon this, rather bitterly, that it matters little whether or not Germany, having almost refused him bread during his life, should, a century and a half after his death, offer him a stone.

Delambre mentions, in his History of Astronomy, that this design was resumed in 1803 by the Prince Bishop of Constance, and that a monument has been erected in the Botanical Garden at Ratisbon, near the place of his interment. It is built in the form of a temple, surmounted by a sphere; in the centre is placed a bust of Kepler, in Carrara marble. Delambre does not mention the original of the bust; but says it is not unlike the figure engraved in the frontispiece of the Rudolphine Tables. That frontispiece consists of a portico of ten pillars, supporting a cupola covered with astronomical emblems. Copernicus, Tycho Brahe, Ptolemy, Hipparchus, and other astronomers, are seen among them. In one of the compartments of the common pedestal is a plan of the observatory at Uraniburg; in another, a printing press; in a third is the figure of a man, meant for Kepler, seated at a table. He is identified by the titles of his works, which are round him; but the whole is so small as to convey very little idea of his figure or countenance. The only portrait known of Kepler was given by him to his assistant Gringallet, who presented it to Bernegger; and it was placed by the latter in the library at Strasburg. Hantsch had a copy taken for the purpose of engraving it, but died before it was

completed. A portrait of Kepler is engraved in the seventh part of Boissard's *Bibliotheca Chalcographica*. It is not known whence this was taken, but it may, perhaps, be a copy of that which was engraved by desire of Bernegger in 1620. The likeness is said not to have been well preserved. "His heart and genius," says Kästner, "are faithfully depicted in his writings; and that may console us, if we cannot entirely trust his portrait." In the preceding pages, it has been endeavoured to select such passages from his writings as might throw the greatest light on his character, with a subordinate reference only to the importance of the subjects treated. In conclusion, it may be well to support the opinion which has been ventured on the real nature of his triumphs, and on the danger of attempting to follow his method in the pursuit of truth, by the judgment pronounced by Delambre, as well on his failures as on his success. "Con-

sidering these matters in another point of view, it is not impossible to convince ourselves that Kepler may have been always the same. Ardent, restless, burning to distinguish himself by his discoveries, he attempted everything; and having once obtained a glimpse of one, no labour was too hard for him in following or verifying it. All his attempts had not the same success, and, in fact, that was impossible. Those which have failed seem to us only fanciful; those which have been more fortunate appear sublime. When in search of that which really existed, he has sometimes found it; when he devoted himself to the pursuit of a chimera, he could not but fail; but even there he unfolded the same qualities, and that obstinate perseverance that must triumph over all difficulties but those which are insurmountable*."

* *Histoire de l'Astronomie Moderne*, Paris, 1821.

List of Kepler's published Works.

Ein Calender	Gratz, 1594
Prodromus Dissertat. Cosmograph.	Tubingæ, 1596, 4to.
De fundamentis Astrologiæ	Pragæ, 1602, 4to.
Paralipomena ad Vitellionem	Francofurti, 1604, 4to.
Epistola de Solis deliquio	1605
De stellâ novâ	Pragæ, 1606, 4to.
Vom Kometen	Halle, 1608, 4to.
Antwort an Röslin	Pragæ, 1609, 4to.
Astronomia Nova	Pragæ, 1609, fol.
Tertius interveniens	Frankfurt, 1610, 4to.
Dissertatio cum Nuncio Sidereo	Francofurti, 1610, 4to.
Strena, seu De nive sexangulâ	Frankfurt, 1611, 4to.
Dioptrica	Francofurti, 1611, 4to.
Vom Geburts Jahre des Heylandes	Strasburg, 1613, 4to.
Respons. ad epist. S. Calvisii	Francofurti, 1614, 4to.
Eclogæ Chronicæ	Frankfurt, 1615, 4to.
Nova Stereometria	Lincii, 1615, 4to.
Ephemerides 1617—1620	Lincii, 1616, 4to.
Epitomes Astron. Copern. Libri i. ii. iii.	Lentius, 1618, 8vo.
De Cometis	Aug. Vindelic. 1619, 4to.
Harmonice Mundi	Lincii, 1619, fol.
Kanones Pueriles	Ulmæ, 1620
Epitomes Astron. Copern. Liber iv.	Lentius, 1622, 8vo.
Epitomes Astron. Copern. Libri v. vi. vii.	Francofurti, 1622, 8vo.
Discurs von der grossen Conjunction	Linz, 1623, 4to.
Chilias Logarithmorum	Marburgi, 1624, fol.
Supplementum	Lentius, 1625, 4to.
Hyperaspistes	Francofurti, 1625, 8vo.
Tabulæ Rudolphinæ	Ulmæ, 1627, fol.
Resp. ad epist. J. Bartschii	Sagani, 1629, 4to.
De anni 1631 phænomenis	Lipsæ, 1629, 4to.
Terrentii epistolium cum commentatiunculâ	Sagani, 1630, 4to.
Ephemerides	Sagani, 1630, 4to.
Somnium	Francofurti, 1634, 4to.
Tabulæ manuales	Argentorati, 1700, 12mo.

LIFE OF SIR ISAAC NEWTON.

The following life is substantially a translation from that in the "Biographie Universelle," by M. Biot, the very learned French mathematician and natural philosopher; and to the kindness of this distinguished individual we feel deeply indebted, for allowing us to present this number to our readers. Those alterations only have been made, which we considered might render the treatise more adapted for the objects which the Society has in view.

ISAAC NEWTON was born at Woolsthorpe, in Lincolnshire, on the 25th December, 1642 (O. S.) the year in which Galileo died. At his birth he was so small and weak that his life was despaired of. At the death of his father, which took place while he was yet an infant, the manor of Woolsthorpe, of which his family had been in possession several years, became his heritage. In a short time his mother married again; but this new alliance did not interfere with the performance of her duties towards her son. She sent him, at an early age, to the school of his native village, and afterwards, on attaining his twelfth year, to the neighbouring town of Grantham, that he might be instructed in the classics. Her intention, however, was not to make her son a mere scholar, but to give him those first principles of education which were considered necessary for every gentleman, and to render him able to manage his own estate. After a short period, therefore, she recalled him to Woolsthorpe, and began to employ him in domestic occupations. For these he soon showed himself neither fitted nor inclined. Already, during his residence at Grantham, Newton, though still a child, had made himself remarkable by a decided taste for various philosophical and mechanical inventions. He was boarded in the house of an apothecary, named Clarke, where, caring but little for the society of other children, he provided himself with a collection of saws, hammers, and other instruments, adapted to his size; these he employed with such skill and intelligence, that he was able to construct models of many kinds of machinery; he also made hour-glasses, acting by the descent of water, which marked the

time with extraordinary accuracy. A new windmill, of peculiar construction, having been erected in the vicinity of Grantham, Newton manifested a strong desire to discover the secret of its mechanism; and he accordingly went so often to watch the workmen employed in erecting it, that he was at length able to construct a model, which also turned with the wind, and worked as well as the mill itself; but with this difference, that he had added a *mouse* in the interior, which he called the *mill*, because it directed the mill, and ate up the flour, as a real miller might do. A certain acquaintance with drawing was necessary in these operations; to this art, though without a master, he successfully applied himself. The walls of his closet were soon covered with designs of all sorts, either copied from others, or taken from nature. These mechanical pursuits, which already implied considerable powers of invention and observation, occupied his attention to such a degree, that for them he neglected his studies in language; and, unless excited by particular circumstances, he ordinarily allowed himself to be surpassed by children of very inferior mental capacity. Having however, on some occasion, been surpassed by one of his class fellows, he determined to prevent the recurrence of such a mortification, and very shortly succeeded in placing himself at the head of them all.

It was after Newton had for several years cherished and, in part, unfolded so marked a disposition of mind, that his mother, having taken him home, wished to employ him in the affairs of her farm and household. The reader may easily judge that he had little inclination for such pursuits. More than once

he was sent by his mother on market-days to Grantham, to sell corn, and other articles of farming produce, and desired to purchase the provisions required for the family; but as he was still very young, a confidential servant was sent with him to teach him how to market. On these occasions, however, Newton, immediately after riding into the town, allowed his attendant to perform the business for which he was sent, while he himself retired to the house of the apothecary where he had formerly lodged, and employed his time in reading some old book, till the hour of return arrived. At other times he did not even proceed so far as the town, but stopping on the road, occupied himself in study, under the shelter of a hedge, till the servant came back. With such ardent desire for mental improvement, we may easily conceive that his repugnance to rural occupations must have been extreme; as soon as he could escape from them, his happiness consisted in sitting under some tree, either reading, or modelling in wood, with his knife, various machines that he had seen. To this day is shewn, at Woolsthorpe, a sun-dial, constructed by him on the wall of the house in which he lived. It fronts the garden, and is at the height to which a child can reach. This irresistible passion, which urged young Newton to the study of science, at last overcame the obstacles which the habits or the prudence of his mother had thrown in his way. One of his uncles having one day found him under a hedge, with a book in his hand, entirely absorbed in meditation, took it from him, and discovered that he was working a mathematical problem. Struck with finding so serious a person, he urged Newton's mother no longer to thwart him, but to send him once more to pursue his studies at Grantham.*

There he remained till he reached his eighteenth year, when he removed to Cambridge, and was entered at Trinity-College, in 1660. Since the beginning of the seventeenth century, a taste for the cultivation of mathematical knowledge had shown itself among the members of that University. The elements of algebra and geometry generally

formed a part of the system of education, and Newton had the good fortune to find Dr. Barrow, professor; a man who, in addition to the merit of being one of the greatest mathematicians of his age, joined that of being the kindest instructor as well as the most zealous protector of the young genius growing up under his care.

Newton, in order to prepare himself for the public lessons, privately read the text books in advance, the better to follow the commentaries of the lecturer. These books were, Bishop Sanderson's *Logic*,* and Kepler's *Treatise on Optics*, from which it is evident the young learner must have made considerable progress in the elements of geometry when studying at Grantham. After Newton went to Cambridge, the process of the unfolding of his intellect, a subject so interesting in the study of the human mind, fortunately remains to us either described by himself or established in literary monuments, by which we are enabled accurately to trace its progress.

At this epoch, Descartes bore sway both in speculative and in natural philosophy. The authority of the metaphysical systems of his daring and fertile mind having succeeded to the empire which those of Aristotle had previously exercised, caused his method and his works to be adopted also in mathematics. Hence the geometry of Descartes was one of the first books that Newton read at Cambridge.

After Newton's persevering efforts, when reading alone, to make himself master of the elements of this science, explained so unconnectedly and imperfectly by other authors, he must have felt a lively pleasure on entering on the wide career that the French analyst was the first to open, and in which, having shown the connexion between algebraical equations and geometry, he discovers to us the use of that relation in solving, almost at sight, problems which, up to that time, had foiled the efforts of all the ancient and modern mathematicians. It is singular, however, that Newton, in his writings, has never mentioned Descartes favourably; and, on more than one occasion, has treated him with injustice.† He next proceeded, when

* These details of the infancy of Newton are taken chiefly from "*Collections for the History of the Town and Soke of Grantham, containing authentic Memoirs of Sir Isaac Newton, &c.*" by Edmund Turner, (London, 1806.)" And from the *Éloge on Newton*, written by Fontenelle.

* The title is *Logicæ artis Compendium, auctore Robert Sanderson. Oxon. 8vo.*

† Particularly in his *Optics*, where he attributes the discovery of the true theory of the rainbow to Antonius de Dominis, Archbishop of Spalatro, leaving to Descartes only the merit of having "mended the ex-

about twenty-one years old, to read the works of Wallis, and appears to have taken peculiar delight in studying the remarkable treatise of this analyst, entitled *Arithmetica infinitorum*. It was his custom, when reading, to note down what appeared to him capable of being improved; and, by following up the ideas of Wallis, he was led to many important discoveries: for instance, Wallis had given the quadrature of curves, whose ordinates are expressed by any integral and positive power of $(1-x^2)$; and had observed, that if, between the areas so calculated, we could interpolate the areas of other curves, the ordinates of which constituted, with the former ordinates, a geometrical progression, the area of the curve, whose ordinate was a mean proportional between 1 and $(1-x^2)$ would express a circular surface, in terms of the square of its radius. In order to effect this interpolation, Newton began to seek, empirically, the arithmetical law of the co-efficients of the series already obtained.* Having found it, he rendered it more general, by expressing it algebraically. He then perceived that this interpolation gave him the expression in series of radical quantities, composed of several terms; but, not blindly trusting to the induction that had conducted him to this important result, he directly verified it by multiplying each series by itself the number of times required by the index of the root, and he found, in fact, that this multiplication re-produced exactly the quantity from which it had been deduced. When he had thus ascertained that this form of series really gave the development of radical quantities, he was obviously led to consider that they might be obtained still more directly, by applying to the proposed quantities the process used in arithmetic for extracting

roots. This attempt perfectly succeeded[†] and again gave the same series, which he had previously discovered by indirect means; but it made them depend on a much more general method, since it permitted him to express, analytically, any powers whatever of polynomials, their quotients, and their roots; by operating upon and considering these quantities as the developments of powers corresponding to integral, negative, or fractional exponents. It is, in fact, in the generality and in the uniformity given to these developments in which the discovery of Newton really consists: for Wallis had remarked before him, with regard to monomial quantities, the analogy of quotients and roots, with integral powers, expressed according to the notation of Descartes; nay, more, Pascal had given a rule for forming, directly, any term of an expanded power of a binomial, the exponent being an integer. But whatever might be the merit of these observations, they were incomplete, and wanted generality, from not being expressed in an algebraical form. In fact, this step made by Newton was indispensable for discovering the development of functions into infinite series. This was found out the celebrated formula of such constant use in modern analysis, known by the name of the *Binomial Theorem of Newton*; and not only did he discover it, but he further perceived that there is scarcely any analytical research in which the use of it is not necessary, or at least possible. He immediately made a great number of the most important of these applications, solving, in this way, by series, with unexampled facility and exactness, questions which, up to that time, had not even been attempted, or of which solutions had been obtained only when the real difficulties of the case were removed by particular limitations. It was thus that he obtained the quadrature of the hyperbola and of many other curves, the numerical values of which he amused himself in computing to as many decimal places nearly as had previously been employed in the case of the circle alone: such pleasure did he take in observing the singular effect of these new analytical expressions, which, when capable of being determined exactly, stopped after a certain number of terms; and, in the opposite case, extended themselves indefinitely, while approximating more and more to the truth. Nor did he confine his application of these formulæ to the

plication of the exterior bow;" and yet every impartial reader, who refers to the original works, will see that the theory of Descartes is exact and complete, either as to the cause of the bow, its formation, or its size, and that he was only unacquainted with the cause of the *different colours*; and even, notwithstanding his ignorance relative to this part of the phenomenon, Descartes, with great sagacity, refers it to another experimental fact, by assimilating it to the colours formed by prisms. It is this formation of colours that Newton has so completely explained by the unequal refrangibility of the rays of light; but all the rest of the explanation is due to Descartes. The book of Dominis contains absolutely nothing but explications entirely vague, without any calculation or real result.

* These details are mentioned by Newton himself, in a letter sent through Oldenburg to Leibnitz, dated October 24, 1676. It is No. LV. in the *Commercium Epistolicum*, published by order of the Royal Society of London.

areas of curves and their rectification, but extended it to the surfaces of solids, to the determination of their contents, and the situation of their centres of gravity. To understand how this method of reducing into series could conduct him to such results, we must recollect that, in 1665, Wallis, in his *Arithmetica infinitorum*, had shown that the area of all curves may be found whose ordinate is expressed by any integral power of the abscissa; and he had given the expression for this area in terms of the ordinate. Now, by reducing into series the more complicated functions of the abscissa which represent the ordinates, Newton changed them into a series of monomial terms, to each of which he was able to apply the rule of Wallis. He thus obtained as many portions of the whole area as there were terms, and by their addition obtained the total. But the far more extensive, and, in some respects, unlimited applications that Newton made of this rule, depended on a general principle which he had made out, and which consisted in the determining, from the manner in which quantities gradually increase, what are the values to which they ultimately arrive. To effect this, Newton regards them not as the aggregates of small homogeneous parts, but as the results of continued motion; so that, according to this mode of conception, lines are described by the movement of points, surfaces by that of lines, solids by that of surfaces, and angles by the rotation of their sides. Again—considering that the quantities so formed are greater or smaller in equal times, according as the velocity with which they are developed is more or less rapid, he endeavours to determine their ultimate values from the expression for these velocities, which he calls *Fluxions*, naming the quantities themselves *Fluents*. In fact, when any given curve, surface, or solid is generated in this manner, the different elements which either compose or belong to it, such as the ordinates, the abscissæ, the lengths of the arcs, the solid contents, the inclinations of the tangent planes, and of the tangents, all vary differently and unequally, but nevertheless according to a regular law depending on the equation of the curve, surface, or solid under consideration.

Hence Newton was able to deduce from this equation the fluxions of all these elements, in terms of any one of

the variables, and of the fluxion of this variable, considered as indeterminate; then, by expanding into series, he transformed the expression, so obtained, into finite, or infinite series of monomial terms, to which Wallis's rule became applicable: thus, by applying it successively to each, and taking the sum of the results, he obtained the ultimate value, i. e. *the fluent* of the element he had been considering. It is in this that the method of fluxions consists, of which Newton from that time laid the foundation; and which, eleven years later, Leibnitz again discovered, and presented to the world in a different form, that, namely, of the modern *Differential calculus*. It were impossible to enumerate the various discoveries in mathematical analysis, and in natural philosophy, that this calculus has given rise to; it is sufficient to remark, that there is scarcely a question of the least difficulty in pure or mixed mathematics that does not depend on it, or which could be solved without its aid. Newton made all these analytical discoveries before the year 1665, that is, before completing his twenty-third year. He collected and arranged them in a manuscript, entitled "*Analysis per æquationes numero terminorum infinitas*." He did not, however, publish, or even communicate it to any one, partly, perhaps, from a backwardness to attain sudden notoriety, though more probably from his having already conceived the idea of applying this calculus to the determination of the laws of natural phenomena, anticipating that the analytical methods which he had discovered would be to him instruments for working out the most important results. It is at least certain, that, satisfied with the possession of this treasure, he kept it in reserve, and turned his attention more closely towards objects of natural philosophy. At this time (1665), he quitted Cambridge to avoid the plague, and retired to Woolsthorpe. In this retreat he was able to abandon himself, without interruption, to that philosophical meditation which appears to have been essential to his happiness.

The following anecdote is related by Pemberton, the contemporary and friend of Newton.—Voltaire, in his '*Elements of Philosophy*,' says that Mrs. Conduit, Newton's niece, attested the fact.

One day, as he was sitting under an apple-tree, (which is still shown) an apple fell before him; and this incident

awakening, perhaps, in his mind, the ideas of uniform and accelerated motion, which he had been employing in his method of fluxions, induced him to reflect on the nature of that remarkable power which urges all bodies to the centre of the earth; which precipitates them towards it with a continually accelerated velocity; and which continues to act without any sensible diminution at the tops of the highest towers, and on the summits of the loftiest mountains. A new idea darted across his mind. "Why," he asked himself, "may not this power extend to the moon, and then what more would be necessary to retain her in her orbit about the earth?" This was but a conjecture; and yet what boldness of thought did it not require to form and deduce it from so trifling an accident! Newton, we may well imagine, applied himself with all his energy to ascertain the truth of this hypothesis. He considered, that if the moon were really retained about the earth by terrestrial gravity, the planets, which move round the sun, ought similarly to be retained in their orbits by their gravity towards that body.* Now, if such a force exists, its constancy or variability, as well as its energy at different distances from the centre, ought to manifest itself in the different velocity of the motion in the orbit; and consequently, its law ought to be deducible from a comparison of these motions. Now, in fact, a remarkable relation does exist between them, which Kepler had previously found out by observation, namely, that the squares of the times of revolution of the different planets are proportional to the cubes of their distances from the sun. Setting out with this law, Newton found, by calculation, that the force of solar gravity decreases proportionally to the square of the distance; and it is to be observed that he could not have arrived at this result without having discovered the means of determining from the velocity of a body in its orbit, and the radius of the orbit supposed to be circular, the effort with which it tends to recede from

the centre; because it is this effort that determines the intensity of the gravity, (to which, in fact, the effort is equal.) It is precisely on this reasoning, that the beautiful theorems on centrifugal force, published six years afterwards by Huygens, are founded; whence it is plain that Newton himself must necessarily have been acquainted with these very theorems. Having thus determined the law of the gravity of the planets towards the sun, he forthwith endeavoured to apply it to the moon; that is to say, to determine the velocity of her movement round the earth, by means of her distance as determined by astronomers, and the intensity of gravity as shown by the fall of bodies at the earth's surface. To make this calculation, it is necessary to know *exactly* the distance from the surface to the centre of the earth, expressed in parts of the same measure that is used in marking the spaces described, in a given time, by falling bodies at the earth's surface; for their velocity is the first term of comparison that determines the intensity of gravity at this distance from the centre, which we apply afterwards at the distance of the moon by diminishing it proportionally to the square of her distance. It then only remains to be seen, if gravity, when thus diminished, has precisely the degree of energy necessary to counteract the centrifugal force of the moon, caused by the observed motion in her orbit. Unhappily, at this time, there existed no correct measure of the earth's dimensions. Such as were to be met with, had been made only for nautical purposes, and were extremely imperfect. Newton, having no other resource but to employ them, found that they gave for the force that retains the moon in her orbit, a value greater by $\frac{1}{8}$ than that which results from her *observed* circular velocity. This difference, which would, doubtless, to any other person, have appeared very small, seemed, to his cautious mind, a proof sufficiently decisive against the bold conjecture which he had formed. He imagined that some unknown cause, analogous, perhaps, to the vortices of Descartes,* modified, in the case of the moon, the general law of gravity indicated by the movement of the planets. He did not, however, on this account, wholly

* Newton afterwards shewed the truth of this result, by deducing it from a law observed by Kepler, in the movement of all the planets, which consists in the description of areas proportional to the times, by the radius vector drawn from each planet to the sun; but he did not know how to make use of this law till he had discovered the means of calculating the motion in an elliptic orbit; that is, about the end of the year 1679.

* Vide *Wiston's Memoirs of Himself*, page 23. &c.

abandon his leading notion, but, in conformity with the character of his contemplative mind, he resolved not yet to divulge it, but to wait until study and reflection should reveal to him the unknown cause which modified a law indicated by such strong analogies. This took place in 1665-6. During the latter year, the danger of the plague having ceased, he returned to Cambridge, but he did not disclose his secret to any one, not even to his instructor, Dr. Barrow. It was not till two years afterwards, 1668, that Newton communicated to the latter, who was then engaged in publishing his lectures on Optics, certain theorems relating to the optical properties of curved surfaces, of which Barrow makes very honourable mention in his preface. Newton had now become a colleague of his former tutor, having been admitted master of arts the preceding year. At length in the same year (1668) an occurrence in the scientific world compelled him to declare himself. Mercator* printed and published, towards the end of this year, a book called *Logarithmotechnia*, in which he had succeeded in obtaining the area of the hyperbola referred to its asymptotes, by expanding its ordinate into an infinite series; this he did *by means of common division*, as Wallis had done in

the case of fractions of the form $\frac{1}{1-x}$:

then, considering each term of this series separately, as representing a particular ordinate, he applied to it Wallis's method for curves, whose ordinates are expressed by a single term, and the sum of the partial areas so obtained, gave him the value of the whole area. This was the *first example given to the world* of obtaining the quadrature of a curve by expanding its ordinate into an infinite series. And it was also the main secret in the general method which Newton had invented for all problems of this nature. The novelty of the invention caused it to be received with general applause. Collins, a gentleman well known to science and philosophy at that time, hastened to send Mercator's book to his friend Barrow, who communicated it to Newton. The latter had no sooner glanced over it, than recognizing his own fundamental idea, he immediately went home, to find the manuscript; in which he had explained his own method, and

presented it to Barrow; this was the treatise *Analysis per æquationes numero terminorum finitas*. Barrow was struck with astonishment at seeing so rich a collection of analytical discoveries of far greater importance than the particular one which then excited such general admiration. Perhaps, too, he must have been still more surprised at their young author having been able to keep them so profoundly secret. He immediately wrote about them to Collins, who, in return, entreated Barrow to procure for him the sight of so precious a manuscript. Collins obtained his request, and happily, before returning the work, took a copy of it, which being found after his death, among his papers, and published in 1711, has determined beyond dispute, by the date which it bore, at what period Newton made the memorable discovery of expansion by series, and of the method of fluxions. It would have been natural to suppose that an interference with his own discoveries would at last have induced Newton to publish his methods; but he preferred still to keep them secret. "I suspected," says he, "that Mercator must have known the extraction of roots, as well as the reduction of fractions into series by division, or at least, that others, having learnt to employ division for this purpose, would discover the rest before I myself should be old enough to appear before the public, and, therefore, I began henceforward to look upon such researches with less interest."*

It were difficult to explain this reserve and indifference by the feelings of extreme modesty alone; but we may come near the truth by considering what were the habits of Newton, and by figuring to ourselves the new and extraordinary allurements of another discovery which he had just made, and which he already enjoyed in secret; for in general, the effort of thinking was with him so strong, that it entirely abstracted his attention from other matters, and confined him exclusively to one object. Thus we know that he never was occupied at the same time with two different scientific investigations. And we find,† even in the most beautiful of his works, the simple, yet expressive avowal of the disgust with which his most curious researches had always finally inspired him, from his ideas being

* Born in Holstein: he passed the greater part of his life in England.

* Com. Epist. LVI.

† At the end of the Optics.

continually, and for a long time, directed to the same object. This might, perhaps, also have in part been caused by a discouraging conviction, that he would seldom be understood and followed in the chain of his reasoning; since others, in order to do so, must be as deeply immersed in the subject and as abstracted from other matters as himself. Be this as it may, when Mercator's work appeared, a new series of discoveries of a totally different nature had taken hold of Newton's thoughts.

In the course of 1666, he had accidentally been led to make some observations on the refraction of light through prisms. These experiments, which he had at first tried merely from amusement, or curiosity, soon offered to him most important results. They led him to conclude that light, as it emanates from radiating bodies, such as the sun, for instance, is not a simple and homogeneous substance, but that it is composed of a number of rays endowed with unequal refrangibility, and possessing different colouring properties. The inequality of the refraction undergone by these rays in the same body, when they enter at the same angle of incidence, enabled him to separate them; and thus, having them unmixed and pure, he was able to study their individual properties. But the breaking out of the plague, which in this year compelled him to take refuge in the country, having separated him from his instruments, and deprived him of the means of making experiments, turned his attention to other objects. More than two years elapsed before he returned to these researches, on finding himself about to be appointed lecturer on optics in room of Dr. Barrow, who in 1669 generously retired in order to make way for him. He then endeavoured to mature his first results, and was led to a multitude of observations no less admirable from their novelty and importance, than for the sagacity, address, and method, with which he perfected and connected them. He composed a complete treatise, in which the fundamental properties of light were unfolded, established, and arranged, by means of experiment alone, *without any admixture of hypothesis*, a novelty at that time almost as surprising as these properties themselves. This formed the text of the lectures he began in Cambridge 1669, when scarcely twenty-seven years old, and thus we see,

from what we have related concerning the succession of his ideas, that the *method of Fluxions*, the *theory of universal gravitation*, and the *decomposition of light*, i. e. the *three grand discoveries which form the glory of his life*, were conceived in his mind before the completion of his twenty-fourth year.

Although the lectures of Newton on optics must inevitably in the end have given publicity to his labours on light, he still refrained from publishing, wishing probably to reserve to himself the opportunity of adding a complete analysis of certain curious properties, of which, as yet, he had had but a slight glimpse. We refer to the intermittences of reflection and refraction which take place in thin plates, and perhaps in the ultimate particles of all bodies. It was not till two years later, that he made known some of his researches, and soon afterwards he was induced to give them full publicity. In 1671 he had been proposed as a Fellow of the Royal Society of London, and was elected on the 11th of January, 1672. In order that he might be qualified to receive this distinction, the rules of the society required that he should declare himself desirous of becoming a Fellow, and he could not do so in a more honourable manner than by offering some scientific communication. He forwarded to them a description of a new arrangement for reflecting telescopes, which rendered them more commodious in use by diminishing their length without weakening their magnifying powers. With regard to this invention, in which Newton had been preceded, probably without knowing it, by Gregory the Scotch mathematician, and by a Frenchman of the name of Cassegrain, it is merely necessary to observe that the construction offers in practice some inconveniences, which cause it to be little used. Nevertheless, when he presented a model of it,* of his own construction, it made a great impression in his favour among the members of the society, to whom probably the construction of Gregory's telescope was not yet well known. The letter which Newton wrote to the society on this occasion, ends with the following characteristic expression:—"I am very sensible of the honour done me by the Bishop of Sarum, in proposing me Candidate, and which I hope will be

* This model, made by Newton himself, is still preserved in the Library of the Royal Society.

further conferred upon me by my election into the society, and if so, I shall endeavour to testify my gratitude by communicating what my poor and SOLITARY endeavours can effect towards the promoting philosophical design.”* The favourable reception which this proposal met with, induced Newton two months afterwards to make to the Royal Society another much more important communication, viz. the first part of his labours on the analysis of light. We can easily imagine the sensation which so great and unexpected a discovery must have produced. The society requested of him, in the most flattering terms, permission to insert this beautiful Treatise in the *Philosophical Transactions*.† Newton accepted this speedy and honourable method of publication; and in addressing his thanks to Oldenburg, their secretary, he says:—“It was an esteem of the Royal Society, for most candid and able judges in philosophical matters, encouraged me to present them with that discourse of light and colours, which since they have so favourably accepted of, I do earnestly desire you to return them my cordial thanks. I before thought it a great favour to be made a member of that honourable body, but I am now more sensible of the advantage: for believe me, Sir, I do not only esteem it a duty to concur with them in the promotion of real knowledge, but a great privilege that, instead of exposing discourses to a prejudiced and censorious multitude, (by which means many truths have been baffled and lost,) I may with freedom apply myself to so judicious and impartial an assembly.”‡ It is but fair to say, for the honour of the Royal Society, that it has always shown itself, more than any other, worthy of this noble testimony which the most illustrious of its members has rendered to its justice. But though the suffrage and esteem of such a society may make amends for, yet they cannot prevent individual attacks. Newton himself was compelled to submit to the common destiny, which ordains that merit, and more particularly success, shall give rise to envy. By unveiling himself, he obtained glory, but at the price of his repose. At this period, Robert Hooke was a fellow of the Royal Society, a

man of extensive acquirements, and of an original turn of thought, with great activity of mind and an excessive desire of renown. There were few departments of human knowledge to which he had not paid more or less attention: so much so, indeed, that it was hardly possible to find any subject of research upon which he did not profess to have original views; or to propose any new invention of which he did not claim the prior discovery. There was then the more opportunity of setting in action and of gratifying his jealous spirit, as all the physical and natural sciences were, at that time, mixed up with theoretical opinions; and there were few men then to be met with who could distinguish the difference between a vague perception and a precise idea—between a physical hypothesis and a law of nature rigorously demonstrated. Hooke himself was no exception to this remark; and unfortunately he was not sufficiently familiar with pure mathematics to make use of them as a means of calculation, either in proving or perfecting a theory. A thorough acquaintance with this instrument was the great advantage possessed by Newton, and which assured to his researches a precision and a certainty hitherto unknown in science. The investigation of the properties of light presented by him to the Royal Society, eminently possessed this rigorous character. It consisted in showing experimentally a certain number of physical properties, which were thus established as matters of fact without any admixture of hypothesis, and without requiring any previous knowledge in what the nature of light consisted. When the first feelings of surprise and admiration excited by this noble work had subsided, the Royal Society appointed three members to study the treatise fully, and to give an account of it. Hooke, being one of the number, undertook to draw up the report. Already on the occasion of Newton presenting his telescope, Hooke had announced that he possessed an infallible method of improving all sorts of optical instruments, so that “whatever almost hath been in notion and imagination, or desired in optics, may be performed with great facility and truth.” Nevertheless, he did not explain this method, but confined himself, in accordance with the conceits of his

* Birch, vol. iii. p. 3.

† At that time published in monthly numbers, by the Royal Society.

‡ Dated Trinity College, February 10th, 1671.

• Birch, vol. iii. p. 4.

day, to masking it under the form of an anagram; of which, however, he appears not to have been able to produce the explanation, since neither he nor any other person has ever realised these wonderful promises. His report on Newton's work was, if not of the same kind, yet conceived in the same spirit of personality: for, instead of discussing the new facts, singly, and as compared with the original experiments, he examined them only in relation to an hypothesis which he had formerly imagined, and which consists in regarding light not as an emanation of very small particles, but as the simple effect of vibrations excited and propagated in a very elastic medium. This conception of the nature of light may be in itself as true as any other, since that nature is still entirely unknown to us; but, in order to place such an hypothesis on an equal footing with another hypothesis, shown by calculation to be consistent with experiment and observation, it ought to be detailed with exactness, and to be rigorously accordant with mathematical calculation. The first of these conditions was far from being fulfilled by Hooke, who substituted in its stead a sketch exceedingly vague, and materially contrary to experiment. He supposed, for instance, that there are only two colours essentially distinct, namely, the violet and the red, of which all the others are but mixtures.

With regard to the second condition, viz., an accordance with calculation, it was then far from possible to submit the system of undulations to rigorous mathematical investigation; since that is more than even, at the present time, those mathematicians have been able to accomplish who have been most occupied with the subject. To so vague a theory did Hooke refer, as a standard, the physical truths which Newton had discovered. He concluded by dictatorially allowing all that appeared to him to be reconcilable with his own hypothesis, and by advising him not to seek any other explanation of the facts.* Newton replied to this attack in a severe and decisive tone.† After refuting an error that Hooke had committed, in supposing the spherical aberration in reflectors greater than that in refracting lenses, he shows that Hooke had judged of the facts he had announced,

not by means of the observations that supported them, but by their accordance or discordance with a previously conceived hypothesis; that this hypothesis was vague and unsatisfactory, and that, for his own part, he had not wished to support any hypothesis whatever, as in fact he had no need of one, but that he had only aimed at establishing the real properties of light upon actual observation. Finally, he adduced new experiments, confirming the results which he had already obtained, and refuted the inaccurate assertions of Hooke with respect to the possibility of reducing all colours to two simple ones; as well as his objections to the production of whiteness by the mixture of all the rays. This paper, which nearly completed Newton's investigation into the properties of light, was published by the Royal Society in the *Philosophical Transactions* of Nov. 1672. Hooke did not reply to this, but presuming, and with good reason, after Newton's first treatise, that such an experimentalist would soon be on the track of all that remained to be discovered concerning the physical properties of light, he hastened to present to the Royal Society several important observations on optics. Among them, we may remark a very precise and faithful account of the changeable colours that appear in the form of rings on soap bubbles, and in the thin plates of air included between pieces of glass pressed together; but without any determination of the physical law or measure even of the breadth and intervals of the rings. Two years afterwards (18th of March, 1674), he read another memoir, in which he detailed the fundamental phenomena of *diffraction*, which had been already discovered and described by Grimaldi;* but, what is still more remarkable, he then announced another principle, which, under the name of the *principle of interferences*, has since become one of such frequent and advantageous application.

This principle is, that colours are produced when two rays of white light arrive simultaneously at the eye, having directions so little different that this organ takes them to be one ray. We shall afterwards see that (as Hooke had

* These discoveries were given to the world in Grimaldi's posthumous work, *Physico-mathesis de lumine*, &c. (Bononiæ, 1665, in 4to.)—a book also containing the undulatory hypothesis afterwards reproduced by Hooke. Vide Montuclia, *Histoire des Mathématiques*, vol. ii.

* Bireh, *Hist. R.S.* vol. iii. p. 10.

† *Philosoph. Transact.* vol. vii. No. 88.

anticipated) Newton was induced subsequently to occupy himself with these new phenomena; but, in the mean time, he was exposed to several absurd attacks upon his experimental analysis of light. Such, for instance, was that of a Jesuit named Pardies, who pretended that the elongation of the refracted image, whence Newton inferred the unequal refrangibility of the rays, was produced entirely by a difference in their original incidences on the first face of the prism: a supposition, the inaccuracy of which the most simple calculation would have been sufficient to show; and which Newton had previously refuted in his own Memoir. But still more foolish was the assertion of one Linus, a physician of Liege, who pretended never to have been able to produce by refraction through a prism an *elongated* image, but only a *round* and *colourless* one; whence he concluded that Newton had been led into error by the accidental passage of some bright cloud, which had elongated and coloured the image; adding also that he himself should not have been astonished had the image been elongated in the longitudinal direction of the prism; but that, without violating the rules of optics, it was impossible to imagine its elongation in the transverse direction. This was accompanied by several authoritative remarks on the improbability of what he called the new *hypothesis*, which Newton had imagined simply to be a statement of facts. These absurdities, as soon as presented, were printed in the Philosophical Transactions; and Newton was obliged to take the trouble to answer them methodically, to prevent their being accredited by that envy which showed itself so eager to receive them. He was compelled to reply to Huygens, who, though really a man of talent, made objections as unphilosophical nearly as the others, since he compared the properties discovered experimentally by Newton with an hypothesis of his own on the nature of light, in the same manner as Hooke had compared them with his hypothesis, and Pardies and Linus with the ancient ones. In vain did Newton reply that he neither advanced nor admitted any hypothesis whatever, but that his sole object was to establish and connect facts by means of the laws of nature. This severe and abstract method of reasoning was then too little understood. It is scarcely conceivable into what de-

tails he was obliged to enter in the discussion; and such was the disgust with which this inspired him, that he gave up his previous intention of printing his lectures on Optics with his treatise on Series, and determined to commit himself no more with the public.* "I was," he afterwards wrote to Leibnitz, "so persecuted with discussions arising from the publication of my theory of light, that I blamed my own imprudence for parting with so substantial a blessing as my quiet, to run after a shadow." It was, perhaps, the remembrance of these inconsiderate objections of Huygens, that afterwards inclined Newton to regard less favourably than he ought to have done, the law of double refraction in Iceland spar, discovered by this eminent mathematician, probably by experiment after Newton's own manner, though he presented it as a deduction from his own favourite system, and as a confirmation of it. It is easy to understand how much Newton must have been grieved by the opposition of so illustrious an adversary as Huygens, since he might at least have hoped to have been understood and appreciated by minds accustomed to the severity of mathematical investigations. Nevertheless, before quitting the lists, Newton wished finally to complete the account of the results which he had obtained, and of the views which he had formed on the nature of light. This was the object of a later paper addressed to the Royal Society.†

We there find an experimental analysis of the colours observed in thin plates—phenomena, which, as we have said, had been previously pointed out and described by Hooke, but without his having either measured the spaces occupied by the colours, or determined the law which they followed. Newton first measured the spaces with admirable precision and nicety, and thence derived the physical laws by which all these results are connected with, and may be deduced from each other.

This treatise, united with his first paper on the analysis of Light, afterwards served as a base for the grand work published in 1704, under the name of *Newton's Treatise on Optics*; with this difference, however, that in the latter work the experimental investigation of

* Comm. Epist. LVII.

† Dated 9th Dec. 1675. Birch, vol. iii. pp. 247, 261, 296.

the phenomena is more extensive and more strictly separated from all hypothesis. The new experiments with which Newton enriched it, relate principally to the colours observed in the *thick* plates of all bodies, when they are presented in a proper manner to the incident ray. Newton reduces them to the same laws as those of the phenomena in *thin* plates; and then considering these laws as established facts equally certain with the particular experiments from which they are deduced, yet far more universal, he unites them all in one general property of light, each peculiarity of which is characterized with such exactness, as to make the general property a pure expression for all the observed laws. The essence of this property is, that each particle of light, from the instant when it quits the radiating body whence it emanates, is subject periodically and at equidistant intervals, to a continual alternation of dispositions to be reflected from or to be transmitted through the surfaces of the diaphanous bodies it meets with; so that, for instance, if such a surface presents itself to the luminous particle during one of the alternations when the tendency to reflection is in force, which Newton has appropriately termed *the fit of easy reflection*, this tendency makes it yield more *easily* to the reflecting power of the surface; while, on the other hand, it yields with more *difficulty* when it is in the contrary phase, which Newton has termed *the fit of easy transmission*. We have here an admirable example of the universal application of scientific definitions when framed in strict accordance with experiment. For, though the term *fits*, inasmuch as it seems to imply a physical property, is applicable in its first intention to material particles only, and thus involves the assumption of the materiality of light, (a fact of which we may reasonably doubt, though Newton has never treated it as doubtful,) yet the characteristics of these fits are described in such exact conformity with experiment, that they would exist without any change, even were it discovered that light is constituted in any other manner—that it consists, for instance, in the propagation of undulations: such is the point of view in which Newton regards these fits in his Optics, 1704, limiting himself to deduce from them his profound inductions, on the intimate constitution of bodies, and on the cause which renders them apt to reflect

or transmit a particular colour. But in his paper of 1675, he connected these properties with a very bold physical hypothesis, so general, that, from it, he deduced the nature of light and of heat, and the explanation of all the phenomena of combination or motion which appear to result from certain intangible and imponderable principles. As this hypothesis (mentioned only in the History of the Royal Society) is little known, and as it appears to have been constantly connected with Newton's thoughts on the constitution of the universe, we may here give a summary of it. We do this without the intention either of defending or combating it, but in order that the reader may see precisely in what the general views of Newton from this time forward consisted, and how, while they continued unchanged by lapse of time, he made a more or less explicit declaration of them according to circumstances. Newton, in the first place, excuses himself for proposing a conjecture as to the nature of light, declaring that he does not need one, and that the properties which he has discovered being physical facts, their being explicable or not by this or that hypothesis, could not in any degree add to or take away from their certainty;* "but," says he, "because I have observed the heads of some great virtuosos to run much upon hypotheses, I will give one which I should be inclined to consider as the most probable, if I were obliged to adopt one." He then admits, nearly as Descartes had previously done, the existence of a fluid imperceptible to our senses, which extends everywhere in space, and penetrates all bodies, with different degrees of density. He supposes this fluid to be more dense in bodies which contain in the same volume a less number of constituent material particles; he supposes also that the density of this fluid varies around each different body, and even around each constituent particle, increasing rapidly near their surface, and afterwards more slowly, though by insensible degrees, as the distance from the surface becomes greater. This fluid (which Newton calls *ætherial medium* or *æther*, in order to characterize by this denomination its extreme tenuity) he also considered as highly elastic; and consequently by the effort which it makes to spread, that it presses against itself, and against the material parts of

* Birch, Hist. R.S. vol. iii. p. 249.

other bodies, with an energy more or less powerful according to its actual density, and thus that all these bodies continually tend towards one another; the inequality of the pressure urging them always to pass from the denser into the rarer parts of the æther. Conformably to his opinion respecting the disposition of the æther around each body, and around each of its material constituent particles, he considered that the variations of its density between a body and a vacuum, or between one body and another neighbouring body, were not sudden and discontinuous, but gradual and progressive; and from being very rapid near the surfaces, where the nature or density of the matter instantaneously changes, they a little farther become so slow as soon to cease to be perceptible beyond certain limits of thickness inappreciable to our senses. If, then, this æther be disturbed or agitated, in any one point, by any cause whatever, producing a vibratory movement, this motion must transmit itself by undulations through all the rest of the medium, in the same way that sound is transmitted through air, but much more rapidly, by reason of the æther's greater elasticity; and, if those undulations, successively reiterated, happen to encounter in their passage the material particles forming the substance of any body, they will agitate them with considerable force, by the quick and periodical repetition of their successive impressions, in precisely the same way that we see solid bodies, and sometimes even the whole mass of a large building, tremble under reiterated impulses of the weak undulations in the air, excited by the sounds of an organ, or by the rolling of a drum.

Now Newton does not suppose that light immediately results from the impression produced by these undulations on the nervous membrane of the retina, as Descartes and Hooke had previously done, and as, in general, has been done by all those who have followed the same system. The principal reason which Newton gives for rejecting this supposition is, that a motion excited in, and transmitted through, an elastic fluid which reposes on another fluid of a different density, does not seem capable of being reflected in the first fluid at their surface of common separation, without being in part transmitted into the second; whereas, in many cases, light, propagated into the interior of bodies, is totally reflected at their second

surface, and again returns into their interior without the smallest part of it going out. Newton, therefore, admits that light consists of a peculiar substance different from the æther, but composed of heterogeneous particles, which, springing in all directions from shining bodies, with an excessive though measurable velocity, agitate the æther in their passage, and excite in it undulations; by the meeting of which, they become liable to be in their turn accelerated or retarded. Newton does not attempt to characterize the essence of these particles, but merely the faculty that he attributes to them of agitating the æther, and of being agitated by it; and finally he adds,* "those that will, may suppose it, multitudes of unimaginable small and swift corpuscles of various sizes springing from shining bodies at great distances one after another; but yet without any sensible interval of time; and continually urged forward by a principle of motion, which, in the beginning, accelerates them till the resistance of the ætherial medium equal the force of that principle, much after the manner that bodies let fall in water are accelerated, till the resistance of the water equals the force of gravity." Be this as it may, the independence of the particles of light and of æther being admitted, as well as their mutual reaction, Newton takes the case of a ray of light moving through a space in which the ætherial medium is composed of strata of unequal density; and applying to the particles of this ray the general principle established above, he concludes that they ought to be pressed, urged, or generally acted upon, so as to go from the denser to the rarer strata of æther; whence they must receive an accelerated velocity, if this tendency conspire with the proper motion of the ray; and a retarded velocity, if it be contrary to it; and generally a curvilinear deviation when the proper motion of the ray and the impression produced by the elastic medium are oblique to one another.

This is precisely what must happen when rays of light pass from one transparent homogeneous body into another, since the æther is there supposed to be of different densities; and the deviation of the rays takes place only near the common surface of the two bodies, where the sensible variation of density begins, whence results the phenomenon

* Birch, *Hist. R. S.* vol. iii. pp. 354, 5.

of refraction.* "Now," says Newton, "if the motion of the ray be supposed in this passage to be increased or diminished in a certain proportion, according to the difference of the densities of the ætherial mediums, and the addition or detraction of the motion be reckoned in the perpendicular from the refracting superficies, as it ought to be, the sines of incidence and refraction will be proportional, according to what Descartes has demonstrated." This explanation of refraction is exactly the same as Newton afterwards reproduced in the *Principia*, though without there pronouncing any opinion on the nature of the disturbing force. It is, however, probable, that in his *Memoir* he deduced it by simple induction, rather than by a mathematical investigation; for it does not appear that, at this epoch, he was acquainted with the calculation of curvilinear motions. It is, however, important to remark, that from this time he had formed a conception of the doctrine of universal gravitation; for he takes care to point out that the unequal density of the æther, at different distances from the surface of bodies, suffices to determine their mutual tendency towards one another; a consideration which he again brought forward in the *Queries* annexed to his *Optics* (in 1704), after he had discovered the laws of the system of the world. Nevertheless we may infer, that in 1675, he had not yet formed the idea of attractions at small distances, since, in his paper addressed to the Royal Society, he imagines that the ascent of liquids in capillary tubes is caused by the air being more rare in confined than in open spaces, and the more rare in proportion as the spaces are more confined. While in the *Queries* he attributes these phenomena to their true cause, viz. to the reciprocal attractions of the tubes and of the fluid; though, even at this later period, he did not know how to calculate their effect. It was reserved for LAPLACE to complete this investigation.

After having thus considered the simple transmission of rays in ætherial strata of unequal densities, Newton examines the modifications produced during this transmission, by their meeting with undulations originally excited in the æther itself, according as such undulations may favour or oppose the actual motion of the luminous particles;

and by this re-action he is enabled to explain the intermittances in reflection and refraction, which take place in thin plates. We may observe in his *Optics*, that he has never abandoned this idea; for though in that work he has maintained the most complete reserve with regard to the nature of light, yet, after characterizing the fits as a purely abstract physical property, he gives as a method of rendering it sensible, the same manner of conceiving it that he had given in his *Memoir* of 1675; the same idea is reproduced in several of the *Queries*, particularly in the 17th, and those following to the 24th, where Newton asks, as in the paper presented to the Royal Society, if this same æther be not also sufficient to produce universal gravitation, and even all the phenomena of animal motion? Finally, in his paper, he endeavours to apply the same principles to the inflections, undergone by rays of light on passing near the extremities of bodies; which he, in like manner, explains by variations in the density of the æther. It is always thus that he has represented these inflections, both in the *Principia*, printed in 1687, and in the *Queries*.

From these examples, taken together, we may see that Newton did *not* "several times change his ideas on light," as has been asserted by some writers, but that, always preserving the same opinion, he has explained it more or less fully, as different occasions demanded.

The phenomena of diffraction, however, were still too imperfectly known, and observed with too little detail for enabling Newton to see precisely whether they agreed or not with his hypothesis. We have reason to believe that, in order to study these properties, he then made a number of experiments, to be afterwards inserted at the end of the *Optics*; for he there introduces them as part of an investigation which he had formerly undertaken, but from which his thoughts were now so far estranged, that he had lost the taste for resuming it. These observations, like all his others, are presented as matters of fact, without relation to any system. When the hypothesis of Newton on the nature of light was presented, in 1675, to the Royal Society, Hooke, as usual, put in his claims to it. Newton, however, did not again waste his time and repose in a controversy on the subject, but contented himself with writing to Oldenburg (21st December), in order to make

* Birch, Hist. R.S. vol. iii. p. 256.

him see the injustice of that jealous individual. He first clearly shows that his fundamental idea has nothing in common with that of Hooke, inasmuch as the latter supposes light to consist in the undulations themselves of the æther, transmitted to the organ of vision; while the light of Newton is a substance entirely distinct, which, thrown into the æther, impresses upon, or receives from it, peculiar motions, by means of which it acts upon us. "As to the observations of Hooke on the colours in thin plates, I avow," says Newton, "that I have made use of them, and thank him for the same; but he left me to find out and make such experiments about it, as might inform me of the manner of the production of those colours, to ground an hypothesis on; he having given no further insight to it than this, that the colour depended on some certain thickness of the plate; though what that thickness was at every colour, he confesses, in his *Micrography*, he had attempted in vain to learn; and, therefore, seeing I was left to measure it myself, I suppose he will allow me to make use of what I took the pains to find out; and this I hope may vindicate me from what Mr. Hooke has been pleased to charge me with."* Happily this time the discussion proceeded no further; and Oldenburg had sufficient influence, as well as sufficient sense, to prevent its obtaining notoriety. From this time till the year 1679, four years afterwards, Newton communicated nothing to the Royal Society. Oldenburg, whose kindness had ever encouraged him, unfortunately died in this interval, and was succeeded in the secretaryship by Hooke, an appointment little likely to remove an apprehension of new disputes. We may imagine, however, that Newton did not remain idle; and, in fact, in this interval, it appears, he was principally occupied with astronomical observations. At last, 28th November, 1679,† he had occasion to write to Hooke about a *System of Physical Astronomy*, on which the Royal Society had asked his opinion. In his letter he proposed, as a matter deserving attention, to verify the motion of the earth by direct experiment, viz. by letting bodies fall from a considerable height, and then observing if they follow *exactly* a vertical direction; for if the earth

turns, since the rotatory velocity at the point of departure must be greater than that at the foot of the vertical, they will be found to *deviate* from this line towards the east, instead of following it *exactly* as they would do if the earth did not revolve. This ingenious idea being very favourably received, Hooke was charged to put it into effect. On reflection, Hooke immediately added the remark, that wherever the direction of gravity is oblique to the axis of the earth's rotation, *i. e.* in all parts of the earth, except at the equator, bodies, in falling, change parallels, and approach the equator: so that in Europe, for instance, the deviation does not take place, rigorously speaking, to the east, but to the south-east of the point of departure. Hooke communicated this remark to Newton, who immediately recognized its correctness in theory; but, in addition to this, Hooke assured the Royal Society that, on repeating the experiment several times, he had actually found that the deviation took place constantly towards the south-east; an accordance which would appear very simple, if Hooke's remarks were merely theoretical; but which must appear very extraordinary if he intended to speak of an actual *observed* deviation reckoned from the foot of the vertical; for in this case, according to the formulæ of LAPLACE, the tendency to the south is of the second order, relative to the absolute deviation; and in Hooke's observations this very slight deviation must have been excessively difficult to ascertain, since his experiments were made in the open air. It was this, however, which led Newton to consider whether the elliptical motion of the planets could result from a force varying inversely as the square of the distance, and if so, under what circumstances such a result would ensue. In fact, in proposing to the Royal Society his curious experiment, he had considered the motion of the heavy body as determined by a force of constant intensity, and had concluded the trajectory to be a spiral,* doubtless, because he imagined the body to fall in a resisting medium, such as the air. Hooke, who for a long time had adopted the hypothesis of a force decreasing as the squares of the distance from the centre, replied that the trajectory ought

* Birch, *Hist. R. S.* vol. iii. p. 279.
† Ibid, vol. iii. p. 512.

* Vide Newton's original Letters in the *Biographia Britannica*, article Hooke, p. 2659.

not to be a spiral, but that in a vacuum it would be an *excentric ellipse*, which would change into an ovoidal curve likewise excentric, if the medium were a resisting one. It is impossible exactly to ascertain how Hooke arrived at these results, for neither then, nor on any subsequent occasion, did he give a demonstration of them; though Halley and Sir Christopher Wren both eagerly pressed him to do so. We might imagine, not without some probability, that the elliptic movement of projectiles was, in his mind, a consequence of the hypothetical, though just, ideas he had formed on the physical cause of the planetary motions; for he attributed them to the existence of a gravitating force, proper to each celestial body, and acting round its centre, with an energy inversely proportional to the square of the distance; so that, in this system, the motion of projectiles round the centre of the earth ought to be elliptical, because, according to observation, the motion of the planets was elliptical round the sun. Hooke had, for some time, turned his thoughts to this kind of speculation; but not being a sufficiently profound mathematician, rigorously to deduce the nature of the force from the form of the orbits, or to show how this form resulted from the supposed law of attraction, he tried to determine its character by direct physical experiments, and actually to produce the motions which resulted from the law, by means of mechanical contrivances. On the 21st March, 1666, he communicated to the Royal Society certain experiments, which he had attempted, in order to determine whether the weight of a body undergoes any variation at different distances from the earth's centre, at the greatest altitudes or depths which can be attained. These experiments were made with too little precision to give results on which any reliance could be placed. Hooke himself perceived this, and proposed to employ the more delicate process of using a pendulum clock, and successively observing its rate at different heights. This first attempt, though imperfect, shows the object he had in view, which perhaps is more clearly seen in his own words. "Gravity, though it seems to be one of the most universal, active principles in the world, and consequently ought to be the most considerable, yet has it had the ill fate to have been always, till of late, esteemed otherwise,

even to slighting and neglect. But the inquisitiveness of this latter age hath begun to find sufficient arguments to entertain other thoughts of it. Gilbert began to imagine it a magnetical attractive power, inherent in the parts of the terrestrial globe. The noble Verulam also, in part, embraced this opinion; and Kepler (not without good reason) makes it a property inherent in all celestial bodies,—sun, stars, planets. This supposition we may afterwards more particularly examine; but first it will be requisite to consider, whether this gravitating or attracting power be inherent in the parts of the earth; and, if so, whether it be magnetical, electrical, or of some other nature distant from either. If it be magnetical, any body attracted by it ought to gravitate more, when nearer to its surface, than when further off.*"

Two months afterwards, Hooke made before the Royal Society another experiment, which, as he himself observed, without being an exact representation of the planetary orbits, afforded an example, at that time new and remarkable, of a curvilinear motion produced by the combination of a primitive impulse with an attracting power emanating from a centre. He suspended from the ceiling of a room a long wire, to the end of which was attached a ball of wood, to represent a planetary body. On removing this pendulum from the vertical, and giving it a lateral impulse perpendicular to the plane of deviation, it is acted on by two forces, of which one is the impulse itself, and the other terrestrial gravity, of which the effort, when decomposed perpendicularly to the wire, tends always to bring the body back to the vertical. Now when the lateral impulse was nothing, the ball clearly described a plane orbit, viz. that of its free oscillation; if the impulse, without being nothing, were still very weak, the trajectory became a very much elongated ellipse, having its major axis in the plane of oscillation; with a stronger impulse, a more open ellipse was obtained, which, at a particular point, became an exact circle; and lastly, still stronger impulses produced ellipses, whose major axes were no longer parallel with, but were perpendicular to the plane of free oscillation. Thus these different curves were seen to be produced and to be transformed into each

* Birch, Hist. R. S. vol. ii., p. 70.

other, by merely changing the relative energies of the two forces (the one impulsive, and the other central) which acted on the pendulum. These ellipses, however, differed from the planetary ellipses, inasmuch as the central force produced by the decomposition of gravity is constantly directed towards the *centre* of the ellipse, and is *directly* proportional to the distance of the body from that centre; whereas, in the planetary orbits, the central force is constantly directed towards *one of the foci* of the ellipse, and is *reciprocally* proportional to *the square* of the distance of the body from that point. Notwithstanding this fundamental distinction, the experiment of Hooke was important and useful, as it gave a perceptible example of the composition of forces. Eight years later, in 1674, Hooke presented the whole of his ideas in a much more explicit and complete manner, at the end of a dissertation, entitled, "*An Attempt to prove the Motion of the Earth from Observations.*"* "I shall," says he, "hereafter explain a system of the world, differing in many particulars from any yet known, answering in all things to the common rules of mechanical motions. This depends upon three suppositions:—first, that all celestial bodies whatsoever have an attraction or gravitating power towards their own centres, whereby they attract not only their own parts and keep them from flying from them, as we may observe the earth to do, but that they do also attract all the other celestial bodies that are within the sphere of their activity, and consequently, that not only the sun and moon have an influence upon the body and motion of the earth, and the earth upon them, but that Mercury, Venus, Mars, Jupiter, and Saturn also, by their attractive powers, have a considerable influence upon its motion, as in the same manner the corresponding attractive power of the earth hath a considerable influence upon every one of their motions also. The second supposition is this, that all bodies whatsoever, that are put into a direct and simple motion, will so continue to move forward in a straight line, till they are, by some other effectual powers, deflected and bent into a motion describing a circle, ellipsis, or some other more compound curve line. The third supposition is, that those attractive powers are so much the more

powerful in operating, by how much the nearer the body wrought upon is to their own centres. *Now what these several degrees are I have not yet experimentally verified*; but it is a notion which, if fully prosecuted, as it ought to be, will mightily assist the astronomers to reduce all the celestial motions to a certain rule, which I doubt will never be done true without it. He that understands the nature of the circular pendulum and circular motion will easily understand the whole ground of this principle, and will know where to find directions in nature for the true stating thereof. This I only hint at present to such as have ability and opportunity of prosecuting this inquiry, and are not wanting of industry for observing and calculating, wishing heartily such may be found, having myself many other things in hand, which I would first complete, and therefore cannot so well attend it. But this I durst promise the undertaker, that he will find all the great motions of the world to be influenced by this principle, and that the true understanding thereof will be the true perfection of astronomy."

Without lessening the credit due to the distinct expression of such remarkable ideas, it is proper to observe, that we find in Hooke's work no measured result. We do not allude only to the law of force, which is here entirely omitted: we have said that Hooke supposed it to be reciprocal to the square of the distance; but others before him, and among them Bouillaud,* had established the same supposition, on simple metaphysical considerations. Halley again did the same, after Hooke and Bouillaud. We have a convincing proof that Hooke arrived at this conclusion in no other way, from his saying that *he had not yet experimentally verified* the law of decrease in the attracting force; for he would not have thus expressed himself if he had discovered this law *directly*, by applying the theorems of Huygens on centrifugal forces to the observed orbits of the planets; for in this case the experiment would have been already made, and the law of the squares, thus obtained, would have needed no other verification. The generalization of the idea of gravity, and its extension to all celestial bodies, decreasing in intensity according to the distance, was formally

* London, 4to, 1674.

• Bullialdus, *Astronomia Philolæica*.

expressed by Borelli* in 1666, in his work on the Satellites of Jupiter; and not only did he announce it as a general principle, but he explained very clearly how the planets may be retained and suspended in empty space round the sun, in the same manner as the satellites round their planets, by the action of a power continually and exactly balanced by the centrifugal force caused by their rotation, without having recourse either to the solid heavens of Aristotle, or to the vortices of Descartes. Borelli even endeavoured to deduce from this combination of forces the elliptical motions of the satellites, and the inequalities in their motions, which he considered as being partly produced by the secondary action of the sun; and though, from his being unacquainted both with the law of this force at different distances, and with the Theorems on Central Forces, published by Huygens six years afterwards, he was, of course, unable rigorously to establish these deductions; yet there was much merit in being the first to guess and perhaps to indicate the possibility of doing so. Newton also, we shall presently see, attributes to Borelli the honour of having first formed the idea of extending the principle of gravitation, and of applying it to the planetary motions; and Huygens renders him the same justice in his *Kosmotheoros*,† where he mentions these happy perceptions, immediately before speaking of the demonstrations of Newton. It is not then by any means impossible that Hooke might have been conducted to the same thoughts by similar, that is by purely physical considerations; and we shall presently see reasons that render this conjecture extremely probable. However, in whatever manner he formed these opinions, it is clear that in 1679 he considered them as undoubtedly correct; for, in writing to Newton on the motion of projectiles, he represents the eccentric ellipse as the consequence of a force reciprocal to the squares of the distances from the centre of the earth. This remarkable relation could not fail of striking a mind which had so long and so constantly studied the motions of the heavens. Newton,

as we have already said, hastened to examine this result, by means of mathematical calculations, and discovered its truth; that is to say, he found that an attractive force, emanating from a centre, and acting reciprocally to the squares of the distances, necessarily compels the body on which it acts, to describe an ellipse, or in general a conic section, in one of whose foci the centre of force resides. The motions produced by such force exactly resemble the planetary motions, both in regard to the form of the orbit and the velocity of the body at each point. This was evidently the secret of the system of the world; but it still remained to account for the singular discordance which the moon's motion had offered to Newton, when, in 1665, he had wished to extend to her the earth's gravity diminished according to this law. Hence it was that, notwithstanding his inference was confirmed by other inductions, he abstained from publishing any thing upon the subject. Three years afterwards, however, (in June, 1682,) Newton being present at a meeting of the Royal Society, in London, the conversation turned on a new measurement of a terrestrial degree, recently executed in France, by Picard, and much credit was given to the care taken in rendering it exact. Newton, having noted down the length of the degree obtained by Picard, returned home immediately, and taking up his former calculation of 1665, began to recompute it from the new data. Finding, as he advanced, the manifest tendency of these numbers to produce the long wished for results, he suffered so much nervous excitement, that becoming at length unable to go on with the calculation, he entreated one of his friends to complete it for him. This time the agreement of the computed with the observed result was no longer doubtful. The force of gravity at the earth's surface, as determined by experiments on falling bodies, when applied to the moon, after being diminished proportionally to the square of the distance from the centre of the earth, was found to be very nearly equal to the centrifugal force in the moon, as concluded from its distance and angular velocity obtained by observation. The small difference which still existed between the two results, was in itself a new proof of exactness; for if we suppose an attractive power to emanate from all the celestial bodies inversely proportional to the squares of

* *Theoricæ medicæ planetarum ex causis physicis deductæ*. (Firenze, 1666.) This same Borelli was the author of the celebrated work de *Motu Animalium*.

† Vid. lib. ii. p. 141. *Christianii Hugenii Kosmotheoros, sive de torris cælestibus, eorumque ornatu coniecturæ*. (4to. Hagæ Comm. 1693.)

their distances from the bodies which they attract, the motion of the moon ought not only to depend upon its gravity towards the earth, but also to be influenced by the action of the sun; for this effect, though exceedingly weakened by the distance, ought not to be wholly imperceptible in the result.

Thus Newton ceased to doubt; and after having been, during so many years, kept in suspense about this eminently important law, he had no sooner recognized its truth, than he penetrated instantly to its most remote consequences, pursued them all with a vigour, a perseverance, and a boldness of thought, which, till that time, had never been displayed in science. Indeed it seems hardly probable that it will, at any future time, be the destiny of another human being to demonstrate such wonderful truths as these; that all the parts of matter gravitate towards one another, with a force directly proportional to their masses, and reciprocally proportional to the squares of their mutual distances; that this force retains the planets and the comets round the sun, and each system of satellites around their primary planets; and that, by the universally communicated influence which it establishes between the material particles of all these bodies, it determines the nature of their orbits, the forms of their masses, the oscillations in the fluids which cover them, and, in fine, their smallest movements, either in space or in rotation upon their own axes, and all conformably to the actually observed laws. The finding of the relative masses of the different planets, the determination of the ratio of the axes of the earth, the pointing out the cause of the precession of the equinoxes, and the discovery of the force exercised by the sun and the moon in causing the tides, were the sublime objects which unfolded themselves to the meditations of Newton, after he had discovered the fundamental law of the system of the universe. Can we wonder at his having been so much excited as not to have been able to complete the calculation which was leading him to a conviction that the discovery was achieved?

It was now that he must have experienced intense satisfaction at having so profoundly studied the manner in which physical forces act, and at having sought by so many experiments to comprehend, and exactly to measure their different effects. More particularly

must he have been delighted at having created that new calculus, by means of which he was enabled to develop the most complicated phenomena, to bring to light the simple elements of motion, and thus to obtain the forces themselves from which the phenomena result; and finally, to re-descend from these forces to the detail of all their effects: for, with equal talent, had he not possessed this instrument of investigation, the complete unfolding of his discovery would have been impossible. But, possessing the means, he had only to apply them; and thus he saw the constant object of his hope attained. Henceforward, he devoted himself entirely to the enjoyment of these delightful contemplations; and during the two years that he spent in preparing and developing his immortal work, *Philosophiæ naturalis Principia Mathematica*, he lived only to calculate and to think. Oftentimes lost in the contemplation of these grand objects, he acted unconsciously: his thoughts appearing to preserve no connexion with the ordinary concerns of life. It is said, that, frequently on rising in the morning, he would sit down on his bedside, arrested by some new conception, and would remain for hours together, engaged in tracing it out, without dressing himself. He would even have neglected to take sufficient nourishment, had he not been reminded by others of the time of his meals.*

It was only by the uninterrupted efforts of solitary and profound meditation, that even Newton was able to unfold all the truths he had conceived, and which were but so many deductions from his great discovery. We may learn from his example, on what severe conditions even the most perfect intellect is able to penetrate deeply into the secrets of nature, and to enlarge the bounds of human attainments. For himself, he well knew, and willingly confessed, the inevitable necessity of perseverance and

* The following anecdote is told on this subject. Dr. Stukely, an intimate friend of Newton, called upon him one day when his dinner was already served up, but before he had appeared in the dining-room. Dr. Stukely having waited some time, and becoming impatient, at length removed the cover from a chicken, which he presently ate, putting the bones back into the dish and replacing the cover. After a short interval, Newton came into the room, and after the usual compliments, sat down to dinner, but on taking up the cover, and seeing only the bones of the bird left, he observed with some little surprise, "I thought I had not dined, but I now find that I have."

constancy in the exercise of his attention, in order to develop the power of thought. To one who had asked him on some occasion, by what means he had arrived at his discoveries, he replied, "By always thinking unto them;" and at another time he thus expressed his method of proceeding. "I keep the subject constantly before me, and wait till the first dawnings open slowly by little and little into a full and clear light." Again, in a letter to Dr. Bentley, he says, "If I have done the public any service this way, it is due to nothing but industry and patient thought." With such tastes and habits, the complete command of his own time, and of his own ideas, was his highest enjoyment. Thus, notwithstanding the importance of the results he had obtained, Newton was not eager to establish a title to them by publication, and perhaps he would have even longer delayed giving them to the world had an accidental circumstance not induced him to do so. About the beginning of 1684, Halley, one of the greatest of the English astronomers, and, at the same time, one of the most enlightened and active minds that have ever cultivated science, formed the idea of employing the *Theorems of Huygens on central forces*, to determine the tendency in the different planets to recede from the sun, by virtue of their revolutions about that body, their orbits being considered as circular. From the ratios discovered by Kepler between the times of these revolutions, and the major axes of the orbits, he recognized these tendencies to be reciprocally as the square of the distances of each planet from the sun, so that the attraction which this luminary exerts to keep them in their places, must also vary according to the same law. This was precisely the idea that Newton had conceived in 1666, and from which he had drawn the same consequence. But there was yet a long way from this, to the rigorous calculation of curvilinear motions when the law of the force is given. Halley perceived the difficulty of this step, and after having in vain endeavoured to remove it, he consulted Hooke, at Sir Christopher Wren's house, without, however, receiving any light on the subject, although Hooke had boasted before them both that he had completely resolved this grand question. At last, impatient to see an idea unfolded, which appeared to him so fertile in consequences, Halley went to Cambridge in

1692, purposely to confer with Newton on the subject. It was then that Newton showed to him a Treatise on Motion, in which Halley found the desired solution. This treatise, with some additions, afterwards formed the two first books of the Principia. It would appear that, at this time, Newton had already introduced, and explained some parts of it, in his lectures at Cambridge. Halley, delighted at seeing his hopes realized, requested Newton to confide to him a copy for insertion in the registers of the Royal Society, in order to secure to him the honour of so important a discovery. Although Newton had an extreme repugnance to expose himself in the arena of literary intrigue, where he had, on a former occasion, wasted his time, and sacrificed his tranquillity, Halley, by repeated entreaties, at length succeeded in his object. On returning to London, Halley announced his success to the Royal Society, who repeated the request by means of Aston, at that time their secretary. But, though Newton kept his word to Halley, personally, by sending him a copy of his treatise, he did not then wish it to be communicated, having still many things to complete.* It was not till the following year, that Dr. Vincent presented, in Newton's name, this work, which was destined to make so great a revolution in science. Newton dedicated it to the Royal Society, who showed itself able to appreciate such an honour. It decided that the work should be printed immediately at its own expense, and addressed to the author, by Halley, a letter of thanks expressed in the most honourable terms.

Hooke, who probably had for some time past conceived in his mind similar ideas, without having been able to bring them to perfection, had no sooner understood the object of Newton's treatise, and heard of the admiration with which it was received, than he claimed for himself the priority of the discovery of the law of attraction varying inversely as the square of the distance. His reclamation was so violent, that Halley thought it necessary to notice it in his official letter to Newton, and to say that Hooke expected Newton to mention in his preface, that the priority was due to him. We will here quote the answer of

* Birch, Hist. R. S. vol. iv. p. 370.

Newton*, (dated Cambridge, 26th June, 1686,) especially as it will enable us to trace more clearly the progress and developement of his ideas throughout this important research.

"In order to let you know the case between Mr. Hooke and me, I give you an account of what passed between us in our letters, so far as I could remember; for 'tis long since they were writ, and I do not know that I have seen them since. I am almost confident by circumstances, that Sir Christopher Wren knew the duplicate proportion when I gave him a visit; and then Mr. Hooke, by his book *Cometa*, written afterwards (1678), will prove the last of us three that knew it. I intended in this letter to let you understand the case fully, but it being a frivolous business, I shall content myself to give you the heads of it in short, viz. that I never extended the duplicate proportion lower than to the superficies of the earth, and before a certain demonstration I found the last year, have suspected it not to reach accurately enough down so low; and therefore in the doctrine of projectiles never used it, nor considered the motion of the heavens, and consequently Mr. Hooke could not, from my letters, which were about projectiles, and the regions descending hence to the centre, conclude me ignorant of the theory of the heavens. That what he told me of the duplicate proportion was erroneous, namely, that it reaches down from hence to the centre of the earth—that it is not candid to require me now to confess myself in print then ignorant of the duplicate proportion in the heavens, for no other reason but because he had told it me in the case of projectiles, and so upon mistaken grounds accused me of that ignorance;—that, in my answer to his first letter, I refused his correspondence; told him I had laid philosophy aside, sent him only the experiment of projectiles (rather shortly hinted, than carefully described) in compliment, to sweeten my answer, expected to hear no further from him, could scarce persuade myself to answer his second letter, did not answer his third, was upon other things, thought no further of philosophical matters than his letters put me upon it, and therefore may be allowed not to have had my thoughts about me so well at that time. That, by the same

reason, he concluded me ignorant of the rest of that theory I had read before in his books. That, in one of my papers, writ (I cannot say what year, but I am sure some time before I had any correspondence with Mr. Oldenburg, and that's above fifteen years ago) the proportion of the forces of the planets to the sun reciprocally duplicate to their distances from him, and the proportion of our gravity to the moon's *conatus recedendi a centro terræ* is calculated, though not accurately enough.—That, when Huygenius put out his treatise de *Horologio Oscillatorio*, a copy being presented to me, in my letter of thanks to him I gave those rules in the end thereof a particular commendation for their usefulness in computing the forces of the moon from the earth, and the earth from the sun, in determining a problem about the moon's phase, and putting a limit to the parallax, which shews that I had then my eye upon the forces of the planets arising from their circular motion, and understood it; so that a while after, when Mr. Hooke propounded the problem solemnly in the end of his *Attempt to prove the motion of the earth*, if I had not known the duplicate proportion before, I could not but have found it now. Between ten and eleven years ago, there is an hypothesis of mine registered in your books, wherein I hinted a cause of gravity towards the earth, sun, and planets, with the dependence of the celestial motions thereon; in which the proportion of the decrease of gravity from the superficies of the planet (though for brevity sake not there expressed) can be no other than reciprocally duplicate of the distance from the centre; and I hope I shall not be urged to declare in print that I understood not the obvious mathematical conditions of my own hypothesis; but grant I received it afterwards from Mr. Hooke, yet have I as great a right to it as to the ellipsis. For as Kepler knew the orb to be not circular but oval, I guessed it to be elliptical; so Mr. Hooke, without knowing what I have found out since his letters to me, can know no more but that the proportion was duplicate *quam proxime* at great distances from the centre, and only guessed it to be so accurately, and guessed amiss in extending that proportion down to the very centre; whereas Kepler guessed right at the ellipsis, and so Hooke found less of the proportion than Kepler did of the

* This letter is printed in the *Biographia Britannica*,—Art. Hooke.

ellipse, there is so strong an objection against the accurateness of this proportion, that without my demonstrations, to which Hooke is yet a stranger, it cannot be believed by a judicious philosopher to be anywhere accurate. And so, in stating this business, I do pretend to have done for the proportion as for the ellipse, and to have as much right to the one from Hooke and all men, as to the other from Kepler, and, therefore, on this account also, he must, at least, moderate his pretences. The proof you sent me I like very well: I designed the whole to consist of three books; the second was finished last summer, being short, and only wants transcribing, and drawing the cuts fairly. Some new proportions I have since thought of, which I can as well let alone. The third wants the theory of comets. In autumn last, I spent two months in calculations to no purpose, for want of a good method, which made me afterwards return to the first book, and enlarge it with divers propositions, some relating to comets, others to other things found out last winter. The third I now design to suppress. Philosophy is such an impertinently litigious lady, that a man had as good be engaged in lawsuits, as have to do with her. I found it so formerly, and now I am no sooner come near her again, but she gives me warning. The two first books, without the third, will not bear so well the title of *Philosophiæ Naturalis Principia Mathematica*; and, therefore, I had altered it to this, *De Motû corporum libri duo*; but, upon second thoughts, I retain the former title, 'twill help the sale of the book, which I ought not to diminish now 'tis yours."

Newton then adds, in a postscript, "Since my writing this letter, I am told by one who had it from another lately present at one of your meetings, how that Mr. Hooke should make a great stir, pretending I had all from him, and desiring they would see that he had justice done him. This carriage towards me is very strange and undeserved; so that I cannot forbear in stating the point of justice, to tell you further that he has published Borelli's hypothesis in his own name; and the asserting of this to himself, and completing it as his own, seems to me the ground of all the stir he makes. Borelli did something and wrote modestly. He has done nothing, and yet written in such a way, as if he knew, and had suf-

ficiently hinted all but what remained to be determined by the drudgery of calculations and observations, excusing himself from that labour, by reason of his other business; whereas he should rather have excused himself by reason of his inability—for it is very plain, by his words, he knew not how to go about it. Now is not this very fine? Mathematicians that find out, settle, and do all the business, must content themselves with being nothing but dry calculators and drudges; and another that does nothing but pretend and grasp at all things, must carry away all the invention, as well of those that were to follow him, as those that went before. Much after the same manner were his letters writ to me, telling me that gravity in descent from hence to the centre of the earth was reciprocally in a duplicate ratio of the altitude—that the figure described by projectiles in that region would be an ellipsis, and that all the motions of the heavens were thus to be accounted for; and this he did in such a way, as if he had found out all, and knew it most certainly. And upon this information, I must now acknowledge, in print, I had all from him, and so did nothing myself but drudge in calculating, demonstrating, and writing upon the inventions of this great man; and yet, after all, the first of these three things he told me is false, and very unphilosophical; the second is as false; and the third was more than he knew, or could affirm me ignorant of, by anything that passed between us in our letters. Nor do I understand by what right he claims it as his own; for as Borelli wrote long before him, that, by a tendency of the planets towards the sun, like that of gravity or magnetism, the planets would move in ellipses: so Bullialdus wrote, that all force respecting the sun as its centre, and depending upon matter, must be in a reciprocally duplicate ratio of the distance from the centre, and used that very argument for it, by which you, Sir, in the last Transactions, have proved this ratio in gravity."

The remainder of this letter offering no other historical details, we will not continue the quotation; but the extremely curious reply of Halley to Newton is well worthy of attention. It is dated 29th June, 1686. Halley begins by encouraging Newton not to heed the effects of Hooke's expostulations with the Royal Society, and then continues,

"According to your desire, I waited upon Sir C. Wren, to inquire of him, if he had the first notion of the reciprocal duplicate proportion from Mr. Hooke? his answer was, that he himself, very many years since, had had his thoughts upon making out the planet's motions by a composition of a descent towards the sun and an impressed motion; but that at length he gave over, not finding the means of doing it. Since which time Mr. Hooke had frequently told him that he had done it, and attempted to make it out to him, but that he never was satisfied that his demonstrations were cogent. And this I know to be true, that in January, 1684, I having, from the sesquialterate proportion of Kepler, concluded that the centripetal force decreased in the proportion of the squares of the distance reciprocally, came on Wednesday to town, from Islington, where I met with Sir C. Wren and Mr. Hooke, and falling in discourse about it, Mr. Hooke affirmed, that upon that principle all the laws of the celestial motions were to be demonstrated, and that he himself had done it. I declared the ill success of my attempts; and Sir Christopher, to encourage the inquiry, said, that he would give Mr. Hooke, or me, two months time to bring him a convincing demonstration thereof; and besides the honour, he of us that did it should have from him a present of a book of forty shillings. Mr. Hooke then said he had it, but that he would conceal it for some time, that others, trying and failing, might know how to value it, when he should make it public. However, I remember that Sir Christopher Wren was little satisfied that he could do it; and though Mr. Hooke then promised to show it to him, I do not find that, in that particular, he has been so good as his word. The August following, when I did myself the honour to visit you, I then learned the good news, that you had brought this demonstration to perfection, and you were pleased to promise me a copy thereof, which I received with great satisfaction; and thereupon took another journey to Cambridge, on purpose to confer with you about it, since which time it has been entered upon the register-books of the society. Mr. Hooke, according to the philosophically ambitious temper he is of, would, had he been master of a like demonstration, no longer have concealed it, the reason he told Sir Christopher and me now ceasing.

But now he says that it is but one small part of an excellent system of nature, which he has conceived but has not yet completely made out; so that he thinks not fit to publish one part without the other. But I have plainly told him, unless he produce another differing demonstration, and let the world judge of it, neither I nor any one else can believe it. After the meeting of the Royal Society, at which your book was presented, being adjourned to the Coffee-house, Mr. Hooke did there endeavour to gain belief, that he had some such things by him, and that he gave you the first hint of this invention; but I found they were all of opinion that nothing thereof appearing in print, nor on the books of the Society, you ought to be considered as the inventor. And if in truth he knew it before you, he ought not to blame any one but himself, for having taken no more care to secure a discovery which he puts so much value on." Halley concludes, by conjuring Newton, in the name of science, not to suppress the third volume through disgust at the conduct of an envious rival. Happily he succeeded, and Newton has, in a scholium,* generously mentioned Wren, Hooke, and Halley, as having all three recognized in the celestial motions the existence of an attraction reciprocally proportional to the square of the distance.

Newton's *Principia* appeared complete in 1687. We may form some idea of the novelty and profundity of the discoveries which it contained, on learning that, when it was first published, not more than two or three among Newton's contemporaries were capable of understanding it; that Huygens himself, a man whose mind was particularly suited to appreciate its merit, only in part adopted the idea of gravitation, and that merely as regarded the heavenly bodies, while he rejected its influence between the separate particles of matter—being preoccupied by the hypothetical ideas he had formed respecting the cause of gravity; that Leibnitz, perhaps through rivalry, or perhaps by a prepossession in favour of his own metaphysical system, completely mistook the beauty and the certainty of the method employed by Newton in this work, and even went so far as to publish a dissertation, in which he endeavoured to demonstrate the same truths on different principles;

that even many years after the publication of the *Principia*, several most profound mathematicians (John Bernoulli, for instance) opposed it, and that Fontenelle, though in advance of his age on most subjects of philosophy, expressed somewhat more than doubts concerning the law of attraction, and persisted, during his whole life, in upholding the vortices of Descartes; and in fine, that more than fifty years elapsed before the great physical truth contained and demonstrated in the *Principia* was, we do not say followed up and developed, but even *understood* by the generality of learned men. Whatever difficulty, however, the just appreciation of such a work may present, we can here give a brief account of it with entire confidence, by translating the words of that illustrious man, whose genius has so much contributed to Newton's glory, in having by his own discoveries subjected *all* the movements of the celestial bodies to the law of universal gravitation. After having exhibited him as setting out from the laws of Kepler, in order to discover the nature and the law of the force that governs the motions of the planets and the satellites in their orbits, and afterwards generalizing this idea according to the phenomena that presented themselves until he had ascended to the certain and mathematical knowledge of universal gravitation, "Newton," says LAPLACE,* "having arrived at this point, saw all the great phenomena of the universe flow from the principle he had discovered. By considering gravity at the surface of the heavenly bodies as the result of the attractions of all their particles, he discovered this remarkable and characteristic property of a law of attraction reciprocal to the square of the distance, namely, that two spheres formed of concentric layers, and with densities varying according to any law whatever, attract each other mutually, as if their masses were united at their centres. Thus the bodies of the solar system act upon each other, and upon the bodies placed at their surfaces, very nearly as if they were so many centres of attraction—a result which contributes to the regularity of their movements, and which made this illustrious mathematician recognize the gravity of the earth in the force that retains the moon in her orbit. He proved that the

earth's movement in rotation must have flattened it at the poles; and he determined the laws of gravitation in the degrees of the meridian, and in the force of gravity at the earth's surface. He saw that the attractions of the sun and moon excite and maintain in the ocean those oscillations which are there observed under the name of *tides*. He recognized several inequalities in the moon's motion and the retrograde motion of her nodes to be owing to the action of the sun. Afterwards, considering the excess of matter in the terrestrial spheroid at the equator, as a system of satellites adhering to its surface, he found that the combined actions of the sun and of the moon tend to cause a retrogradation, in the nodes of the circles they describe round the axis of the earth; and that the sum of these tendencies being communicated to the whole mass of the planet, ought to produce in the intersection of its equator with the ecliptic that slow retrogradation known by the name of the precession of the equinoxes. The true cause of this great phenomenon could not have even been suspected before the time of Newton, since he was the first who made known the two leading facts on which it depends. Kepler himself, urged by an active imagination to explain every thing by hypothesis, was constrained to avow in this instance the failure of his efforts. But, with the exception of the theory of the elliptical motions of the planets and comets, the attraction of spheres, the ratio of the masses of the planets accompanied by satellites to that of the sun, all the other discoveries respecting the motions and figures of the heavenly bodies were left by him in an incomplete state. His theory of the figures of the planets is limited, by supposing them to be homogeneous. His solution of the problem of the precession of the equinoxes, though very ingenious, and notwithstanding the apparent agreement of its result with observations, is defective in many particulars. Among the numerous perturbations in the motions of the heavenly bodies, he has only considered those of the moon, the greatest of which, viz. *evection*, has wholly escaped his researches. Newton has well established the existence of the principle he had the merit of discovering; but the development of its consequences and advantages has been the work of the successors of this great mathematician. The imperfection of the infinitesimal calculus when

* Exposition du Système du Monde, par M. Laplace. Paris, 1813. 4to. pp. 413, 426.

first discovered, did not allow him completely to resolve the difficult problems which the theory of the universe offers; and he was oftentimes forced to give mere hints, which were always uncertain till confirmed by rigorous analysis. Notwithstanding these unavoidable defects, the importance and the generality of his discoveries respecting the system of the universe, and the most interesting points of natural philosophy, the great number of profound and original views which have been the origin of the most brilliant discoveries of the mathematicians of the last century, which were all presented with much elegance, will insure to the *Principia* a lasting pre-eminence over all other productions of the human mind."

The great results that Newton has amassed in the *Principia* are almost all presented in a synthetical form, like that used in the writings of the ancients. Nevertheless we may assert, that he did not discover them by means of synthesis, which is neither sufficiently easy of application, nor sufficiently fertile in results to be employed in discovering such complicated truths, or for foreseeing consequences so remote from their first principle. It is hence evident, from this very impossibility, that Newton attained these great results by the help of analytical methods, of which he had himself so much increased the power; and this conclusion acquires certainty from the correspondence between Newton and Cotes, relating to the second edition* of the *Principia*, for in it we find Cotes, the pupil of Newton, employing the analytical form either in submitting to Newton the difficulties he met with, or in solving them himself. It remains to be explained why Newton preferred setting forth his discoveries by a different method, thus depriving himself of the increase of glory he would infallibly have obtained, by giving to the world the several analytical inventions with which he must have been acquainted in solving the questions he has treated. Among these we may mention the principle of the *calculus of variations*, which must have been necessary to him in determining the *solid of the least resistance*. It were difficult to say with certainty what decided him to make such a sacrifice, but if we may hazard a conjecture, it may not be impossible that,

from the excessive apprehension which he laboured under of having his results attacked, he preferred the synthetical form, as being a severer method of demonstration, and as being likely to inspire more confidence in those who should read his work at a time when the methods of the infinitesimal analysis were still but little known; and when, from their novelty, they might appear less convincing to many of his readers. Whilst the *Principia* were preparing for the press, chance produced an incident that drew Newton from his studious retreat, and brought him on the theatre of public affairs. King James II. desiring to re-establish catholicism in England, and thinking fit to attack the usages and rights of the Protestants, had, among other measures, commanded* the University of Cambridge to confer the degree of M. A. on Francis, a Benedictine Monk, without requiring of him the oath prescribed by the statutes against the catholic religion. The University asserted its privileges; and Newton (who had shown himself one of the most ardent in encouraging resistance) was one of the delegates sent to maintain their rights before the High Commission Court. These delegates made so firm and unexpected a defence, that the king thought proper to drop the affair. It was this circumstance, perhaps, as much as the personal merit of Newton, that induced the University to elect him, the following year, as their representative to serve in the Convention Parliament, which declared the throne vacant, and called William to the crown. He sat in this parliament until its dissolution, but without acting a remarkable part. C. Montague, afterwards Earl of Halifax, was a member at the same time, and having been educated at Cambridge, was able to appreciate the merit of the genius who formed the glory of the University. Hence, when Halifax, having become Chancellor of the Exchequer, in 1696, conceived the design of a general recoinage, he demanded and obtained for Newton the honourable and lucrative employment of Warden of the Mint, which was at once an act of kindness, and a choice influenced by discernment. In fact, Newton rendered very signal service in executing the important measure which the statesman had determined on; being

* M. Biot examined this correspondence at Cambridge.

* Vide Burnet, History of his Own Time, vol. i. p. 698.

peculiarly fitted for the business by his singular mathematical and chemical knowledge. It appears that he had always taken great interest in chemistry; for, from the time when, as a child, he had lived with the apothecary at Grantham, till he resided at Cambridge, he had continued to occupy himself occasionally with that science. Of this we have a proof in his philosophical works, which are filled with profound chemical observations. In tracing the order of these labours, we find him, in his first researches about telescopes, in 1672, making a number of experiments on the alloys of metals, in order to discover the combinations most advantageous for optical purposes, and amassing in these essays a number of remarkable peculiarities in the constitution of bodies. Three years afterwards, the paper on the colours in thin plates affords us still more varied experiments on the combinations of different bodies, solid or liquid, with each other, and on the tendency or the repugnancy they have to unite; still later, the same subjects are treated with greater boldness and comprehensiveness in the Treatise on Optics, and particularly in the queries placed at the end of that admirable work; for what, at that time, could be bolder, than to assert that water must contain an inflammable principle, and that a similar one exists in the diamond?

Besides the natural charm a mind like Newton's must have felt, in the various astonishing and mysterious phenomena of chemistry, what additional interest must they have excited in him, when, having discovered the existence of molecular attraction, and the effects of actions exerted at small distances in the motion of light, he was led to see that similar forces, differing only in their law of decrease, or intensity, would be sufficient to produce in the ultimate particles of bodies all those phenomena of union and disunion, that constitute the science of chemistry! With these new and important phenomena, he occupied himself constantly at Cambridge; and, along with the study of chronology and history, they were the only relaxation he allowed himself when fatigued with his mathematical meditations. He had constructed a small laboratory for prosecuting such pursuits; and it would seem that, in the years immediately following the publication of the *Principia*, he devoted

almost his whole time to them. But a disastrous accident deprived him, in an instant, of the fruits of so much labour, and lost them to science for ever.

Newton had a favourite little dog called "Diamond." One winter's morning, while attending early service, he inadvertently left this dog shut up in his room; on returning from chapel, he found that the animal, by upsetting a taper on his desk, had set fire to the papers on which he had written down his experiments; and thus he saw before him the labours of so many years reduced to ashes. It is said, that on first perceiving this great loss, he contented himself by exclaiming, "Oh, Diamond! Diamond! thou little knowest the mischief thou hast done." But the grief caused by this circumstance, grief which reflection must have augmented, instead of alleviating, injured his health, and, if we may venture to say so, for some time impaired his understanding. This incident in Newton's life, which appears to be confirmed by many collateral circumstances, is mentioned in a manuscript note of Huygens, which was communicated to M. Biot, of the French Institute, by Mr. Vanswinden, in the following letter:—

"There is among the manuscripts of the celebrated Huygens, a small journal in folio, in which he used to note down different occurrences; it is side Z., No. 8, page 112, in the catalogue of the library at Leyden: the following extract is written by Huygens himself, with whose hand-writing I am well acquainted, having had occasion to peruse several of his manuscripts and autograph letters.* *On the 29th May, 1694, a Scotchman of the name of Colin, informed me, that Isaac Newton, the celebrated mathematician, eighteen months previously, had become deranged in his mind, either from too great application to his studies, or from excessive grief at having lost, by fire, his chemical laboratory and some papers. Having made observations before the Chancellor of Cambridge,*

* The Latin words used by Huygens are as follows: "1694, die 29 Maii, narravit mihi D. Colin, Scotus, celeberrimum ac rarum geometram, Ism. Newtonum, incidisse in phrenitin abhinc anno ac sex mensibus. An ex nimia studii assiduitate, an dolore infortunii, quod in incendio laboratorium chemicum et scripta quædam amiserat. Cum ad archiepiscopum Cant. venisset, ea locutum quæ alienationem mentis indicarent; deinde ab amicis cura ejus suscepta, domoque clausa, remedia volenti nolenti adhibita, quibus jam sanitatem recuperavit, ut jam nunc librum suum *Principiorum* intelligere incipiat."

which indicated the alienation of his intellect, he was taken care of by his friends, and being confined to his house, remedies were applied, by means of which he has lately so far recovered his health as to begin to again understand his own *Principia*. Huygens mentioned this circumstance to Leibnitz, in a letter, dated the 8th of the following June, to which the latter replied on the twenty-third. 'I am very happy that I received information of the cure of Mr. Newton, at the same time that I first heard of his illness, which, without doubt, must have been most alarming. It is to men like Newton and yourself, Sir, that I desire health and a long life.'

This account by Huygens is corroborated by the following extract from a MS. at Cambridge, written by Mr. Abraham de la Pryne, dated Feb. 3, 1692, in which, after mentioning the circumstance of the papers being set fire to, he says, "But when Mr. Newton came from chapel, and had seen what was done, every one thought he would have run mad, he was so troubled thereat, that he was not himself for a month after." From these details, it would appear that the mind of this great man was affected, either by excess of exertion, or through grief at seeing the result of its efforts destroyed. In truth, there is nothing extraordinary in either of these suppositions; nor ought we to be astonished that the first sentiments arising from the great affliction which befell Newton were expressed without violence, for his mind was, as it were, prostrated under their weight. But the fact of a derangement in his intellect, whatever may have been the cause, will explain how, after the publication of the *Principia*, in 1687, Newton, though only forty-five years old, *never more* gave to the world a new work in any branch of science; and why he contented himself with merely publishing those that he had composed long before this epoch, confining himself to the completion of those parts that required development. We may also remark, that even these explanations appear in every case to be taken from experiments or observations previously made; as for instance, the additions to the second edition of the *Principia* in 1713, the experiments on thick plates, on diffraction, and the chemical queries placed at the end of the *Optics*, in 1704; for Newton distinctly announces them to be taken from manuscripts which he had former-

ly written; and adds, that though he felt the necessity of extending, or of rendering them more perfect, yet henceforth such subjects were no longer in his way.* Thus it appears, that though he had recovered his health sufficiently to understand all his researches, and even, in some cases, to make additions or useful alterations (as is shown by the second edition of the *Principia*, for which he kept up a very active mathematical correspondence with Cotes), yet he did not wish to undertake new labours in the department of science where he had done so much, and where he was so well able to conceive what remained to do. But whether this determination were imposed on him by necessity, or merely caused by a sort of moral weariness, the result of so long and severe an exercise of thought, what Newton had already done is sufficient to place him in the first rank of discoverers in every branch of pure and applied mathematics. After having admired him as almost the creator of Natural Philosophy, as one of the chief promoters of mathematical analysis, we must acknowledge, also, that to him we owe the first idea of mechanical chemistry; since he regarded its combinations as the result of molecular action, and by the boldest and most felicitous inductions raised himself to a conception of the composition and variation in the state of bodies, such as before his time was unknown and unthought of. Unit- ing so much theoretical and experimental knowledge, Newton must have been of the greatest service in superintending the melting down of the old coinage, which, from its worn and depreciated state, it was necessary to call in; and we find, accordingly, that in three years time (1699) he was recompensed for his services by the lucrative appointment of *Master of the Mint*. Hitherto, his means had been small† for his domestic wants. This new accession of fortune, however, did not render him unworthy of it; having gained it by merit, he maintained his title to it by the use he made of it. At this time, all the clouds had disappeared with which the spirit of jealousy had endeavoured to obscure his glory. He had raised himself too high to have a rival remain-

* *Vide Optics*, end of second book.

† The estates of Woolsthorpe and Suster were valued, at that period, at about £801. per annum. He derived, also, some revenue from the university and from Trinity College.—*Vide Turner*.

ing, and due homage was paid from all quarters to his transcendent talents.

In 1699, the Académie des Sciences at Paris being empowered by a new Royal Charter to admit a very small number of foreign associates, hastened to make this distinction yet more honourable by enrolling on its lists the name of Newton. In 1701, the University of Cambridge again elected him to serve in Parliament.

In 1703, he was chosen President of the Royal Society of London, a title which renders the person on whom it is conferred, as it were, the public representative of philosophy and science, and gives to him an influence the more useful, because it proceeds from voluntary confidence. Newton was annually re-elected to this honourable office, and continued to fill it during the remainder of his life (a period of twenty-five years); and finally, in 1705, he was knighted by Queen Anne. He now determined to publish himself, or to allow others to publish, his different works. He first gave to the world his *Optics*, a treatise which comprises all his researches on light. It would appear that, fatigued with the petty attacks that his ideas on these subjects had drawn upon him (in 1672-5), Newton had resolved not to publish this work during the life of Hooke; the latter, however, died in 1702, and the jealous influence he had been able to exercise had previously expired. Newton, having no longer any fear of controversy, did not delay publishing these discoveries, which, though of a different description, and of a less general application than those which the world had admired in the *Principia*, are not inferior to them in the originality of their conception.

When the *Optics* appeared, in 1704, it was written in English. Dr. Samuel Clarke, afterwards so celebrated for his controversies with Leibnitz, published a Latin version in 1706, with which Newton was so satisfied, that he presented the translator with 500*l.* as a testimony of his acknowledgment; many editions of the work itself, and of the translation, rapidly succeeded each other, both in England and on the continent. Although the number of editions shows how much this treatise has from that time been admired, yet its whole merit has not been fully appreciated till within these few years, when new discoveries, and particularly that of the polarization of light, have rendered

perceptible all the importance of certain very delicate phenomena, whose general existence Newton had pointed out in the propagation of light, and which, under the names of "fits of easy transmission and reflection," he considered as essential attributes of that principle. These properties being so subtle, that they escape all observations which are not extremely exact, and being at the same time so singular that, in order to admit them, it is necessary to have the fullest conviction of the accuracy of the experiments which establish them, they were, for a long period, regarded merely as ingenious hypotheses; and it has even been thought in some degree necessary to apologize for Newton's having mentioned them. But, in the present day, it is generally acknowledged that these properties, with the laws assigned to them by Newton, are modifications really and incontestably inherent in light, though their existence must be differently conceived and applied, according to the hypothesis we adopt as to the nature of the luminous principle.

To the first edition of the *Optics*, Newton added two analytical treatises, the one entitled "*Enumeratio linearum tertii ordinis*," and the other, "*Tractatus de quadratura curvarum*." The latter contains an explanation of the method of fluxions, and its application to the quadrature of curves, by means of expansion into infinite series; and the first a very elegant classification of curves of the third order, with a clear and rapid enumeration of their properties, which Newton probably had discovered by the method of expansion, enunciated in the former treatise; though he merely indicates the results, without mentioning the process which he had employed in investigating them. These two treatises were withdrawn from the following editions of the *Optics*, with the subject of which they were not sufficiently connected; but we may presume that Newton's object in inserting them in the edition of 1704 was to insure his right to the discovery and application of those new analytical methods, which, after having been so long in his secret, and as he supposed, sole possession, had now for several years been making their way with much success on the continent, and were then producing new and important results in the hands of foreign analysts, particularly of Leibnitz, and the Bernoullis.

The great renown which Newton had acquired, caused all his productions to be received with avidity. Hence it was that Whiston published in 1707, without the knowledge or consent of Newton, the "*Arithmetica universalis*," which appears to have been merely the text of the lectures on Algebra, that he delivered at Cambridge, written rapidly for his own use, and not intended for publication. Science, however, must congratulate itself on the transgression of confidence that has fortunately made this work known; for it were impossible to see a more perfect model of the art by which geometrical or numerical questions may be submitted to algebraical calculation; whether we regard the happy choice of the unknown quantities, or the ingenious combination of analytical formulæ, employed in finding the simplest method of solution. A second and more complete edition was published in London in 1712, according to Gravesande, with the participation of Newton himself—a proof that this production of his youth appeared to him neither unworthy of his name nor of his attention.

It was also, by the care of some other editor, but with his consent, that in 1711 a small treatise, entitled "*Methodus differentialis*," was published, in which he shows how to draw a *parabolic curve* through any given number of points—a determination which, when reduced into formulæ, is very useful in the interpolation of series, and in approximating to the quadratures of curves.

In the same year, by other hands, was published the long-suppressed treatise, "*Analysis per equationes numero terminorum infinitus*," which he had composed in 1665, and in which, as we have already said, he had explained his first discoveries in fluxions, and in expansions, by means of infinite series. A copy of this dissertation had formerly been taken by Collins, from the original sent to him by Barrow; and having been found among his papers after his death, leave was obtained from Newton to publish it—a permission which he probably gave the more willingly, as the work being of old date, uncontestedly established his claims to the invention of the new method.

Newton formerly had prepared, on the same subject, a more extensive treatise, entitled "*A method of Fluxions*," which he proposed to join as an introduction

to a treatise on algebra, by Kinckhuysen, of which he had undertaken to publish an edition in 1672: this, without doubt, would have been more valuable than the book itself, but his fear of scientific quarrels induced him then to keep his manuscript secret. Towards the close of his life, he again thought of publishing it, but it was not printed till after his death. The same apprehension had, as we have already said, prevented him from publishing his "Optical Lectures" delivered at Cambridge. Happily, however, he had entrusted copies to many persons, and among others, to Gregory, professor of astronomy at Oxford, one of which being printed three years after his death, has preserved to us this work. It presents a very detailed experimental exposition of the phenomena of the composition and decomposition of light, with their most usual applications: it is, in fact, the *Optics* without the most difficult part, viz. the theory of colours produced by thin plates; but, in the other parts, fully developed both by calculations and by numerous experiments. In this form, it was extremely proper for the use to which Newton intended it, and at this day it offers a most valuable model for an elementary exposition of phenomena by experiment.

Here would terminate our account of the works on which the fame of Newton reposes, had not a new literary dispute (about 1712), which, in fact, he did not provoke, and the existence of which, perhaps, he more than once regretted, completely revealed all the fertility of his wonderful genius, and assembled a multitude of analytical discoveries, which we find in the correspondence that ensued. We have seen that Newton, for a long time, obstinately guarded the secret of his discoveries, and particularly that of the method of fluxions, of which he justly foresaw the future utility in calculating the phenomena of nature. However, in 1676, Leibnitz having heard of the new results that Newton was said to have obtained by means of infinite series, testified to Oldenburg the desire he felt to become acquainted with them. The latter induced Newton not to refuse a communication which could not but be honourable to him. In consequence (23rd of June, 1676), Newton sent to Oldenburg a letter to be transmitted to Leibnitz, in which he gave expressions for the expansion in series of binomial powers, of the sine in terms of the arc, of the arc

in terms of its sine, and of elliptical, circular, and hyperbolic functions, without, however, any demonstration or indication of the means he had used for obtaining these results; merely stating that he possessed a method by which, when these series were given, he could obtain the quadratures of the curves from which they were derived, as well as the surfaces and centres of gravity of the solids formed by their rotation. This may in fact be done by considering each term of these series as the ordinate of a particular curve, and by then applying the method previously given by Mercator, for squaring curves, of which the ordinates are expressed rationally in terms of the abscissa. This is precisely what Leibnitz remarked in his answer to Newton on the 27th of the following August, adding that he should be glad to know the demonstration of the theorems on which Newton founded his method of reducing into series; but that, for himself, though he recognized the utility of this method, he employed another, which consisted in decomposing the given curve into its superficial elements, and in transforming these infinitely small elements into others, equivalent to them, but belonging to a curve whose ordinate was expressed rationally in terms of the abscissa, so that the method of Mercator might be applied in squaring it. After giving different explanations of this method, he declares in express terms that he does not believe that "all problems, except those of Diophantes, can be resolved by it alone, or by series," as Newton had affirmed in his letter; and among the problems which elude these processes, he mentions the case of finding curves from their tangents; adding that he had already treated many questions of this sort by means of a direct analysis, and that the most difficult had been thus solved. This was more than enough to show Newton that Leibnitz was at least upon the track of the infinitesimal calculus, if he did not possess it already; and, therefore, in his answer (dated Oct. 24th, though apparently delivered to Leibnitz much later), after giving the explanations requested by Leibnitz on the formation of binomial series, and after stating to him the succession of ideas, by means of which he had discovered them, Newton hastens to declare that he possesses for drawing tangents to curves a method equally applicable to equations, whether disen-

gaged or not of radical quantities; "but," he adds, "as I cannot push further the explication of this method, I have concealed the principle in this anagram."*

He announced that he had established on this foundation many theorems for simplifying the quadrature of curves, and gave expressions for the areas in terms of the ordinates in several simple cases; but he enveloped both the method and the principle on which it rested in another anagram more complicated than the first.

The evident object of Newton, in this letter, was to place his claims to priority of invention in the hands of Leibnitz himself. The noble frankness of Leibnitz appears on this occasion to the greatest advantage: for in his answer to Newton (21st of June, 1677) he employs neither anagram nor evasion, but details simply and openly the method of the infinitesimal calculus, with the differential notation, the rules of differentiation, the formation of differential equations, and the applications of these processes to various questions in analysis and geometry; and, what mathematicians will consider as far from being unimportant, the figures employed in the exposition of these methods offer precisely the same letters, and the same method of notation, that Leibnitz had used in his first letter of the 14th of April the preceding year. Newton made no reply to this memorable letter, either because he no longer felt the wish, or because, from Oldenburg's death, (which happened in the autumn of the same year,) he had no longer an opportunity of doing so.

Leibnitz published his differential method in the Leipzig Acts for 1684, in a form exactly similar to that which he had sent to Newton. No claim was set up at that time to contest his right of discovery, and Newton himself, *three years afterwards*, eternalized that right by recognizing it in the Principia, in the following terms.† "In a correspondence which took place about ten years ago, between that very celebrated mathematician G. Leibnitz and myself, I mentioned to him that I possessed a method (which I concealed in an anagram) for determining maxima and

* The letters composing the anagram formed the following sentence—*datâ equatîone quocumque fluentes quantitates involvente, fluxiones invenire et vice versâ.*

† Scholium, Prop. vii. Lib. 2.

minima, for drawing tangents, and for similar operations, which was equally applicable both to rational and irrational quantities: that illustrious man replied that he also had fallen on a method of the same kind (*se quoque in ejusmodi methodum incidisse*), and communicated to me his method, which scarcely differed from mine, except in the notation and the idea of the generation of quantities."

There is a curious ambiguity in the words, "*he replied that he had fallen on a method of the same kind*," which, to those who had not seen the letters that were interchanged, might convey the idea, that Leibnitz had discovered the key to Newton's anagram; but this meaning is not to be found in Leibnitz's letter; he only announces a supposition, honourable to his character, viz. that the concealed method of Newton has, perhaps, some connexion with that which he communicates to him. With this explanation, the above passage in the *Principia* is in truth a formal recognition of Leibnitz's claims. It was so considered by every one when it appeared, and during twenty years Leibnitz was allowed, without any dispute, to develop all the parts of the differential calculus, and to deduce from it an immense number of brilliant applications, which seemed to extend the power of mathematical analysis far beyond any preconceived limits. In this interval, Wallis, by publishing the above-mentioned letters between Leibnitz and Newton, only rendered, if possible, the claims of the former more complete and more incontestable in the eyes of every impartial person. It was not till 1699 that Nicholas Fatio de Duillier,* in a Memoir, in which he employed the infinitesimal calculus, claimed, in favour of Newton, the first invention of it; "and," added he, "with regard to what Mr. Leibnitz, the second inventor of this calculus may have borrowed from Newton, I refer to the judgment of those persons who have seen the letters and manuscripts relating to this business." Did Fatio really believe what he was writing, or did he wish to flatter the national pride of the country in which he lived? or was he not in some manner irritated at Leibnitz having rendered so little justice to the *Principia*, and at his appearing to arrogate to himself a sort of empire over all discoveries made by

the aid of the new calculus? These questions we do not pretend to decide; but the two latter suppositions are the most probable. Leibnitz replied, by stating the facts, and quoting his letters, and the testimony rendered to him by Newton himself. Fatio was silent; and thus the matter stood till 1704, when Newton published the *Optics*. In giving an account of the *treatise on the quadrature of curves*, which was joined to this work, the editor of the Leipzig Acts naturally mentioned the evident analogy that existed between Newton's method of fluxions and the differential calculus which had been published twenty years previously by Leibnitz, in the same Acts, and which had since become the means of making an infinity of analytical discoveries. In comparing the two methods, the editor (whom Newton supposes to have been Leibnitz himself) did not precisely say, that the method of fluxions was a mere transformation of the differential calculus; but he used terms which might bear such an interpretation. This was the signal for attack, on the part of the English writers: one of the most violent of them, Keil, professor of astronomy at Oxford, said, in a paper printed in the *Philosophical Transactions*, not only that Newton was the first inventor of the method of fluxions, but also that Leibnitz had stolen it from him, by merely changing the name and the notation used by Newton. This produced an indignant reply from Leibnitz, who had the imprudence to submit the question to the judgment of the Royal Society, that is to say, of a tribunal which was presided over by his rival. The society, with scrupulous fidelity, collected all the original letters that could be found bearing on the matter in question, and thus, with regard to the facts, its conduct was unimpeachable; but the most important and delicate part of the business, viz. the discussion of those papers, and the consequences to be deduced by them, it referred to arbitrators chosen by itself, who were not known, and about whose appointment Leibnitz was *not* consulted. These arbitrators decided that Newton had indubitably been the first discoverer of the method of fluxions, a truth which is certainly incontestable in the sense that discovery and invention are synonymous terms; but they also added two assertions, which can only be considered as the expression of their personal opinion—first, that the *differential* and

* A Genevese settled in England.

fluxional methods are one and the same thing; and, secondly, that Leibnitz *must* have seen a letter of Newton's, (dated 10th December, 1672,) in which the method of fluxions is described in a manner sufficiently clear for any intelligent person to understand. Now of these two assertions, the second is not proved in any one of its parts, and the letter of Newton alluded to, appears, according to his custom, to have been more intended for establishing his right, than proper for indicating the manner of attaining his method. With regard to the first assertion, that the methods are absolutely identical, it may easily be refuted by the simple consideration, that if the method of fluxions alone existed at the present moment, the invention of the differential calculus with its notation, and its principle of decomposition into infinitely small elements, would still be an admirable discovery, and one which would immediately bring to light a number of applications, which we now possess, but which probably would not have been obtainable without its assistance. Admitting then, as certain, the priority of Newton's ideas on this subject, we think that the reserve he maintained regarding it left the field open to all other inventors; and that from the general tendency of the mathematical researches of that period, both Leibnitz and Newton might have separately arrived by different means at the knowledge of a method, the want of which was then so sensibly felt in all analytical researches. The quarrel between Newton and Leibnitz has not been without advantage to mathematical science; since it produced the precious collection of letters on infinitesimal analysis, collected by the Royal Society, and published in 1712, under the name of the *Commercium Epistolicum*. But as regards these two great men themselves, the bitterness with which it inspired the one against the other, became the torment and the misfortune of the remainder of their lives. Newton went so far as to affirm, that Leibnitz had deprived him of the differential calculus, and then that this calculus was identical with Barrow's method of tangents: an assertion of which he could not but have perceived the injustice, since, if he pretended, on the one hand, that the differential calculus and the method of fluxions were the same, he must have also admitted the method of fluxions to be identical with Barrow's method of tan-

gents, an assertion which he was far from admitting. Newton suffered himself to be carried away so far as to pretend that the paragraph inserted in the Principia, by which he had so openly acknowledged the independent rights of Leibnitz, was by no means intended to render him that testimony, but, on the contrary, to establish the priority of the method of fluxions over that of the differential calculus. Newton's animosity was not even calmed by the death of Leibnitz, in 1716: for he immediately afterwards printed two manuscript letters of Leibnitz, written in the preceding year, accompanied with a bitter refutation. Six years later, (in 1722) he caused a new edition of the *Commercium Epistolicum* to be printed, at the head of which he placed a very partial extract from this Collection. This was apparently made by himself, and had already appeared two years before the death of Leibnitz, in the Philosophical Transactions for 1715. Finally, Newton had the weakness to leave out, or allow to be left out, in the third edition of the Principia, published under his own inspection, 1725, the famous Scholium, in which he had admitted the rights of his rival. To render such conduct, not to say excusable, but even comprehensible, on the part of a man who must so well have known that the only tribunal that can decide on such causes is impartial posterity, it is necessary to say that Leibnitz, on his side, had neither been less passionate nor less unjust. Hurt by the unexpected publication of the *Commercium Epistolicum*, and irritated by a decision, given without his knowledge, by judges whom he had not appointed, and who had not waited for his defence, he summoned contrary testimonies in his support. Leibnitz had the misfortune to produce proofs equally exaggerated with those brought forward by Newton. He printed, and spread throughout Europe, an anonymous letter (since discovered to have been written by J. Bernoulli) that which is extremely injurious to Newton, represented as having fabricated to employ the method of fluxions from the differential calculus. Leibnitz committed the default. He was in the habit of working with the Princess of Wales his glossary in law to George the First, which he endowed with a highly valuable place the figure had received Newton withness, and was fond of cor-
him. She declared that

herself happy in living at a time that enabled her to become acquainted with so great a genius. Leibnitz made use of his correspondence with the princess, to lower Newton in her eyes, and to represent his philosophy to her not only as physically false, but also as dangerous in a religious point of view; and, what is still more inconceivable, he founded these accusations on passages in the *Principia*, and in the *Optics*, which Newton had evidently composed and inserted with intentions sincerely religious, and as genuine professions of his firm belief in a divine Providence. For instance, in explaining the true method to be pursued in natural philosophy, Newton says, in his Twenty-eighth Query, "the main business of this science is to argue from phenomena, without feigning hypotheses, and to deduce causes from effects, till we come to the very First Cause; which certainly is not mechanical: and not only to unfold the mechanism of the world, but chiefly to resolve these and such like questions. What is there in places almost empty of matter, and whence is it, that the sun and planets gravitate towards one another, without dense matter between them? Whence is it that nature doth nothing in vain, and whence arises all that order and beauty, which we see in the world? To what end are comets, and whence is it that planets move all one and the same way, in orbs concentric, while comets move all manner of ways in orbs very eccentric; and what hinders the fixed stars from falling upon one another? How came the bodies of animals to be contrived with so much art? and for what ends were their several parts? was the eye contrived without skill in optics, and the ear without knowledge of sounds? How do the motions of the body follow from the will, and whence is the instinct in animals? Is not the sensory of animals that place to which of the sensitive substance is present; and Newton, which the sensible species of things persons, and they may be perceived, by Did Ratio mediate presence to that sub-writing, or and these things being rightly national pride does it not appear from phe-he lived? or w^h there is a Being incorpo-irritated at Lei. intelligent, omnipresent, little justice to the space, as it were, in his appearing to ar. the things themselves inti-of empire over, thoroughly perceives them, ends them wholly by their presence to himself; and

which things, the images only, carried through the organs of sense into our little sensoriums, are there seen and beheld, by that which in us perceives and thinks; and though every true step made in this philosophy bring us not immediately to the knowledge of the First Cause, yet it brings us nearer to it, and on that account is to be highly valued?"

It is thus that Newton speaks of a Supreme Being; and even those who might dispute the arguments which he gives for such an existence, must still recognize, in this passage, the sentiments of a mind deeply imbued with religious feelings, and convinced of their true foundation. It was upon this ground, however, that Leibnitz attacked him in his correspondence with the princess: "it appears," says he, in one of his letters, "that natural religion is diminishing extremely in England;" and he cites as a proof the works of Locke, and the above passage from Newton; elsewhere he says, "that these principles are precisely those of the materialists." When we see a mind of the order of that of Leibnitz expressing itself with such blind contempt for the grand and incontrovertible discovery of universal gravitation, and employing such arguments in objecting to it, we are disposed to compassionate the occasional weakness of the finest intellects, and to deplore the petty passions which tarnish the splendour of genius. The rank of the person to whom this accusation was addressed increased its importance in those days. The king was informed of the matter, and expressed his expectation that Newton would reply. It would appear that it was this authority that determined Newton personally to enter the lists; but he only undertook the defence of the mathematical part of the question; the philosophical part he left to Dr. Clarke, who, though inferior as a mathematician, was a better metaphysician than himself. From this resulted a great number of letters, written by Clarke and Leibnitz to each other, which were all inspected by the princess. In the course of this correspondence, as often happens, the original question was lost amidst collateral disquisitions.* On reading these letters, it must excite surprise that a woman of rank could amuse herself with discussions of this sort,

* These letters were published in France by Des maiseaux.

mixed up as they were with the coarse and erudite jests made use of by Leibnitz. To this taste, however, of the princess for serious matters we owe our acquaintance with a work of Newton, very different from those that we have hitherto mentioned. Converting one day on some historical subject, Newton explained to her a system of chronology, which he had formerly composed, simply for amusement. The princess was so much pleased with it, that she requested a copy, *for her own use*, on which latter condition Newton complied with her request: he, however, gave also a copy to the Abbé Conti, who had made himself remarkable by interfering in the disputes between Leibnitz and Newton. No sooner was the Abbé in Paris, than he communicated this manuscript to the world. It was immediately translated and printed, not only without the consent or knowledge of Newton, but even accompanied with a refutation by Fréret. Newton had thus the mortification to hear at the same time of the publication and reply, without having had any suspicion of the transaction; and was hence obliged, though contrary to his original intention, at least to give a more correct edition; but he was only able to prepare one: it did not appear till after his death in 1728.

This leads us to speak of another work of Newton, which, though appearing to differ much in its title from the one we have just mentioned, is, like it, an historical memoir; the title is, "*Observations upon the Prophecies of Holy Writ, particularly the Prophecies of Daniel and the Apocalypse of St. John.*" Notwithstanding the singularity such a subject appears to offer, when treated of by a mind like that of Newton, we venture to affirm, that more persons have spoken of this dissertation than have given themselves the trouble to read it; it therefore becomes our duty here to point out more particularly the object which Newton had in view, and his manner of proceeding. The groundwork of his reasoning is concisely expressed by the following words in the work itself:—

"The folly of interpreters hath been to foretell times and things by this prophecy, as if God designed to make them prophets. By this rashness they have not only exposed themselves, but brought

the prophecy also into contempt. The design of God was much otherwise. He gave this and the prophecies of the Old Testament, not to gratify men's curiosities, by enabling them to fore-know things; but that after they were fulfilled, they might be interpreted by the event; and his own Providence, not the interpreters', be then manifested thereby to the world. Now," says Newton, "for understanding the prophecies, we are in the first place to acquaint ourselves with the figurative language of the prophets; this language is taken from the analogy between the world natural and an empire or kingdom considered as a world politic."* He then successively enters into all the details of this connexion; first of all considering the heavens and the earth as representing thrones and people; then taking the astronomical phenomena, the rain, the hail, the meteors, the animals, the vegetables, their different parts, their different actions, and those of man himself; and finally, every thing in the material world, as having a peculiar mystic signification which he fixes and defines: "for instance," says he, "when a beast or man is put for a kingdom, his parts and qualities are put for the analogous parts and qualities of the kingdom: as the head of a beast for the great men who precede and govern; the tail for the inferior people who follow and are governed; the heads, if more than one, for the number of capital parts, or dynasties or dominions in the kingdom, whether collateral or successive, with respect to the civil government; the horns on any head for the number of kingdoms in that head, with respect to military power; seeing for understanding and policy; and in matters of religion for ~~various~~ bishops; speaking for making laws; the mouth for a lawgiver, &c. &c."† Down to this point we find, in fact, nothing new, except the precise and, in some degree, systematic explanation of the method of interpretation: for at bottom this method is that which has been employed by all commentators; and it is really impossible to employ any other, in applying a prophecy which is not explicit in its terms. The distinguishing character of Newton's work is, that having thus made his glossary beforehand, it often suffices him for explaining a prophecy, to place the figu-

* Age of Apocalypse.

* Prophecies, part 1. chap. 2.

† Prophecies, part 1. chap. 2. p. 8.

rative terms word for word opposite to the explanations: by these means he makes a quicker and more extended progress. We will not follow him in the vast career he proposed to go over. Furnished with what he considered a key to prophetic language, he successively questions Daniel and St. John, and endeavours to produce, from their prophecies, the historical events that have taken place since their time. His work is immense; it embraces not only the principal epochs, and the most important events, in the ancient and in a part of the middle ages, but also a multitude of particular facts, of chronological observations, and of researches on civil or ecclesiastical antiquities, showing deep and extensive knowledge, taken from the most authentic sources. To give an idea of the detailed applications by which Newton has allowed himself to be carried away in this singular composition, and at the same time not to leave unnoticed the spirit of prejudice of which unhappily it bears the stamp, we will extract a passage in the seventh and eighth chapters of the first part. Newton has explained the ten horns of the fourth beast of Daniel by the ten kingdoms which the barbarians founded on the ruins of the Roman empire in the west, and has rapidly traced the history of each of these kingdoms, in order to show how it agrees with the prophecies. It remains to explain the eleventh horn of the same beast: the words of scripture are: "Now Daniel considered the horns, and behold there came up among them another horn, before whom there were three of the first horns plucked up by the roots; and behold in this horn were eyes like the eyes of a man, and a mouth speaking great things, and his look was more stout than his fellows, and the same horn made war with the saints, and prevailed against them: and one who stood by, and made Daniel know the interpretation of these things, told him, that the ten horns were ten kings that should arise, and another should arise after them and be diverse from the first, and he should subdue three kings, and speak great words against the Most High, and wear out the saints, and think to change times and laws: and that they should be given into his hands until a time and times and half a time." "Now," says Newton, "kings are put for kingdoms as above; and therefore the little horn is a little kingdom. It was a horn of the

fourth beast, and rooted up three of his first horns; and therefore we are to look for it among the nations of the Latin empire, after the rise of the ten horns. But it was a kingdom of a different kind from the other ten kingdoms, having a life or soul peculiar to itself, with eyes and a mouth. By its eyes it was a seer; and by its mouth speaking great things, and changing times and laws, it was a prophet as well as a king. And such a seer, a prophet, and a king, is the church of Rome." Newton then supports this analogy by an historical account of the rise and progress of the papal power, the details of which he, in succession, compares with the prophecy. Newton carries this investigation *no further* than the last half of the eighth century, because," says he, "the Pope, by acquiring temporal power, is clearly designated by the prophet:" but carried beyond the limits previously assigned by himself to interpreters, he goes on to predict the epoch of the fall, or at least decline of this temporal power, for translating the expression of Daniel, "a time and times and half a time," by 1260 solar years, and indicating the year 800 as about the point to count from, he fixes the fatal term to be about the year 2060. We must remark, that this conclusion is not, in his work, as in those of some other protestant writers, dictated by any sectarian or party feeling; he states it with all the calm of entire conviction, and with all the simplicity of an evident demonstration. It appears to be not Newton, but St. John and Daniel, who attack the power of modern Rome, who characterize it by injurious terms, and finally predict its ruin.

It will, doubtless, be asked, how a mind of the character and force of Newton's, so habituated to the severity of mathematical considerations, so accustomed to the observation of real phenomena, so methodical, and so cautious, even at his boldest moments in physical speculation, and consequently so well aware of the conditions by which alone truth is to be discovered, could put together such a number of conjectures, without noticing the extreme improbability that is involved in all of them, from the infinite number of arbitrary postulates on which he endeavours to establish his system. The answer to this question must be taken entirely from the ideas and the habits of the age

in which Newton lived. Not only was Newton profoundly religious, but his whole life was spent, and all his affections were concentrated in a circle of men, who, holding the same doctrines, considered themselves bound by their station or profession to defend and propagate them. The English philosophers of that period took pleasure in combining the researches of science with theological discussion; to which they were the more inclined, because the cause of protestantism had identified itself with political liberty; and men studied the bible to find weapons against despotism. The choice of Newton by the University of Cambridge as one of the delegates sent to King James, shows clearly that he shared in such sentiments; nor is it a more surprising fact, that Newton wrote upon the Apocalypse, than that R. Boyle, one of the greatest natural philosophers of the same period, published a treatise, entitled "The Christian Virtuoso," of which the object is to show that experimental philosophy conduces to a man being a good Christian,—than that Wallis, the celebrated mathematician, composed a number of tracts on religious subjects,—than that Barrow who reckoned Newton himself among his pupils, and who resigned in his favour the mathematical chair, consecrated his latter years to theology, in order to take the degree of doctor in that faculty—that Hooke, whom we have so often mentioned, composed a work on the Tower of Babel—that Whiston, Newton's pupil and successor at Cambridge, also composed an essay "on the Revelation of St. John," and other treatises on pure theology—that Clarke, another still more illustrious pupil of Newton, the faithful translator of his Optics, the zealous promoter and ingenious defender of his philosophy, was at the same time the most profound theologian and sublime preacher in England; and finally, that Leibnitz himself, to take no other example, in the course of his literary life, voluntarily made numerous excursions into the provinces of natural theology, revelation, and biblical criticism; that he commented on the story of Balaam, treated in various ways the question of grace, and with the laudable intention of uniting Protestants and Catholics, discussed with Bossuet the principal doctrinal points which separate the two churches. This alliance of the exact sciences with religious controversy, at that time so

general, is the natural mode of accounting for the theological researches of Newton, however singular they might appear at the present day. There is another tract belonging to the same class of writings, which we must also mention, not only from the importance of the subject in a religious point of view, but also because it affords us a new opportunity of seeing the extensive knowledge which Newton possessed in these matters. The title is "*An historical account of two notable corruptions of the Scriptures*," in fifty pages 4to.; it contains a critical discussion of two passages in the Epistles of St. John and St. Paul, relating to the doctrine of the Trinity, which Newton supposes to have been altered by the copyists. From the nature of the subject, and from certain indications at the beginning of the pamphlet, it probably was composed when the works of Whiston and of Clarke on the same subject drew upon them the attacks of all the English theologians, that is, about 1712-13. It is certainly very remarkable that a man of the age of seventy-two or seventy-five should be able to compose rapidly, as he himself insinuates, so extensive a piece of sacred criticism, and of literary history, in which the logically connected arguments are always supported by the most varied erudition. At this period of Newton's life, the reading of religious works had become one of his most habitual occupations; and after he had performed the duties of his office, they formed, along with the conversation of his friends, his only amusement. He had now almost ceased to think of science, and as we have already remarked, since the fatal aberration of his intellect in 1693, he gave to the world only three really new scientific productions. One of these had probably been prepared some time previously, and the other must have occupied but little time: the first, published in the Philosophical Transactions, consists of only five, though very important, pages. It contains a comparative scale of temperatures, from the point of melting ice to that of the ignition of charcoal; the lower degrees are observed by means of a thermometer of linseed oil, the scale of which is divided into equal parts; the zero corresponds to the melting point of ice, and the 81st degree to the melting point of tin. The higher degrees are calculated according to the law of cooling in a metallic mass, by supposing the instan-

taneous decrease in temperature to be proportional to the temperature itself, and by observing the time of the arrival of the fluid at each degree of temperature intended to be marked. These two methods of observation are connected by applying them to the same temperature—for instance, to the fusion of tin, which is the highest in the one series, and the lowest in the other.

We have thus in this paper three important discoveries—first, a method of comparing thermometers, by determining the extreme terms of their scale from phenomena taking place at *constant temperatures*—secondly, the determination of the laws of cooling in solid bodies at slightly elevated temperatures; and thirdly, the observation of the constancy of temperature in the phenomena of melting and boiling—a constancy which has since become one of the foundations of the modern theory of heat: this important fact is established in Newton's treatise, by numerous and various experiments, made not only on compound bodies, and the simple metals, but on various metallic alloys, which shows us that Newton clearly perceived their importance. There is reason to believe that this paper was one of those composed before the fire in his laboratory.

The second paper we must mention, also dated 1700, was communicated by Newton to Halley, and was a plan for an instrument of reflection to observe with at sea, without the observer being disturbed by the motion of the ship. It has been pretended that this idea, since so generally and so usefully employed by navigators, had been invented a long time previously by Hooke. It is true that in the history of the Royal Society for 1666, there is mentioned an instrument proposed by Hooke, to measure angles by means of the reflection of light; this announcement, however, is unaccompanied by any description to enable us to judge of the nature of the instrument; and if we endeavour to supply this defect by consulting the works of Hooke, written after this period, we shall find, that though he often makes use of reflection, it is always when applied to *large fixed instruments*; an idea which has no relation to that of employing reflection in *moveable instruments*, in order to render the angular distance of remote objects under observation independent of small changes of place in the centre of obser-

vation from which they are viewed. There is no reason to believe that any one formed this happy and important idea before Newton, though the inexplicable silence of Halley, with regard to Newton's letter to him, left to another man, *Hadley*, the honour of again conceiving it (in 1731), and of so happily executing it, that mariners have given the name of *Hadley's Quadrant* to this ingenious and useful invention.

The last labour of Newton that remains to be mentioned, was of another sort, and composed on a totally different occasion. In 1696, J. Bernoulli proposed to the mathematicians of Europe, to discover a curve, down which a heavy body should descend in the quickest time possible, between two given points at unequal heights. Newton having received this problem, presented on the next day a solution of it, but without any demonstration, merely saying that the required curve must be a cycloid, for the determination of which he gave a method. This solution appeared anonymously in the *Philosophical Transactions*, but J. Bernoulli immediately guessed the author; "*tanquam*," says he, "*ex ungue Leonem*." This method of defiance, then in vogue, was again presented some years later to Newton, but by a more formidable adversary, and in a case where victory was of still more importance. In 1716, when the dispute about the invention of the infinitesimal analysis was at his height, Leibnitz wishing to show the superiority of his calculus over Newton's method of fluxions, sent, in a letter to the Abbé Conti, the enunciation of a certain problem, in which it was required to discover a curve such as should cut at right angles an infinity of curves of a given nature, but all expressible by the same equation; "he wished," he said, "to feel the pulse of the English analysts." Of course the question was a very difficult one. It is said that Newton received the problem at four in the afternoon as he was returning from the Mint, and, that though extremely fatigued with business, yet he finished the solution before retiring to rest. It has been, however, justly remarked, that Newton only gave the differential equation for the problem, and not its integral, in which the real difficulty consists. This was his last effort of the kind; and he soon entirely ceased to occupy himself with mathematics: so that during the last ten years of his life, when consulted

about any passage in his works, his reply was, "Address yourself to Mr. De Moivre, he knows that better than I do." And then, when his surrounding friends testified to him the just admiration his discoveries had universally excited, he said, "I know not what the world will think of my labours, but, to myself, it seems that I have been but as a child playing on the sea-shore; now finding some pebble rather more polished, and now some shell rather more agreeably variegated than another, while the immense *ocean of truth* extended itself *unexplored* before me."*

This profound conviction of the numerous discoveries that still remained to be made, did not, however, bring him again on that sea where he had advanced so much farther than any other man. His mind, fatigued by long and painful efforts, had need of complete and entire repose. At least we know, that thenceforward he only occupied his leisure with religious studies, or sought relief in literature or in business. Newton, the greatest of mankind in science, was, if we may dare to say so, but an ordinary man in other pursuits; he never distinguished himself in parliament, to which he was twice summoned; and in one instance he appears to have acted with inexplicable timidity.† In 1713, a bill was brought in for encouraging the discovery of a method for finding the longitude at sea. Whiston, the author of the bill, and who himself tried to gain the reward proposed in it, obtained the appointment of a committee for discussing the measure; and four members of the Royal Society were invited to attend—Newton, Halley, Cotes, and Dr. Clarke: the three latter gave their opinions verbally, but Newton read his from a paper he had brought with him, without being understood by any one; he then sat down and obstinately kept silence, though much pressed to explain himself more distinctly. At last Whiston, seeing the bill was going to fail, took on himself to say, that Mr. Newton did not wish to explain more through fear of compromising himself, but that he really approved of the measure. Newton then repeated word for word what Whiston had said, and the report was brought up. This almost

puerile conduct, on such an occasion, tends to confirm the fact of the aberration of Newton's intellect in 1695, though it might have been merely the effect of excessive shyness, produced by the retired and meditative habits of his life. For, to judge from a letter of Newton,* written some time before the disastrous epoch, in which he points out the conduct to be pursued by a young traveller, it would appear that he was very ignorant of the habits of society.

From the manner in which his life was spent, we may easily conceive that he was never married, and (as Fontenelle says) that he never had leisure to think about it; that being immersed in profound and continual studies during the prime of his life, and afterwards engaged in an employment of great importance, and ever quite taken up with the company which his merit drew to him, he was not sensible of any vacancy in life, nor of the want of domestic society. His niece, who with her husband lived in his house, supplied the place of children, and attended to him with filial care. From the emoluments of his office—from a wise management of his patrimony—and from his simple manner of living, Newton became very rich, and employed his wealth in doing much good. He thought, says Fontenelle, that a legacy is no gift, and therefore left no will—it was always out of his *present* fortune that he proved his generosity to his relations, or to the friends whom he knew to be in want. His physiognomy might be called calm rather than expressive, and his manner languid rather than animated: his health remained good and uniform till his eightieth year; he never used spectacles. About that age he began to suffer from an incontinence of urine; but notwithstanding this infirmity, he still had, during his five remaining years, long intervals of health, or at least of freedom from pain, obtained by a strict regimen and other precautions, which till then he had never had occasion for. He was now obliged to rely upon Mr. Conduit, who had married his niece, for the discharge of his official duties at the Mint. Newton was useful to Conduit, even after death: for the honourable confidence that existed between them gave him a sort of claim to the office, which the king eagerly confirmed.

* This anecdote is mentioned in a manuscript of Conduit. Vid. Turner.

† This anecdote is mentioned by Whiston in his work, "Longitude Discovered,"—8vo. London, 1738.

"Newton," says Fontenelle, "did not suffer much, except in the last twenty days of his life: it was truly judged from the symptoms, that he was afflicted with the stone, and that he could not recover. In the paroxysms of pain, he uttered not a moan, nor gave any sign of impatience; and, as soon as he had a moment of relief, he smiled and spoke with his usual gaiety. Hitherto he had always employed some hours every day in either reading or writing. On Saturday the 18th of March, he read the papers in the morning, and conversed for some time with Dr. Mead, the physician who attended him, having then the perfect use of all his senses and his understanding; but in the evening, he entirely lost them without again recovering, as if the faculties of his mind were not destined to linger by degrees, but at once to vanish. He died the Monday following (March 20th, 1727,) at the age of eighty-five. His corpse lay in state in the Jerusalem Chamber, and was thence conveyed to Westminster Abbey; the funeral ceremony was numerously attended; the pall was supported by six peers; and every honour was paid to his remains."

The family of Newton, justly sensible of the distinction derived from their connexion with so great a genius, erected at a considerable expense a monument to his memory, on which is inscribed an epitaph, ending as follows:—*"Sibi gratulentur mortales tale tantumque exstitisse humani generis decus."*—"Let mortals congratulate themselves that so great an ornament of the human race has existed"—an eulogy which, though true in speaking of Newton, can be applied to no one else.

Besides the works we have already mentioned, Newton published an edition of the "*Geographia Generalis*" of Varenius, 8vo, 1672, reprinted in 1681. There is no really complete edition of the works of Newton, though Bishop Horsley published one in five volumes, 4to, to which he has given this title; but he has

omitted a number of papers collected by Castillon (4 vols. 4to, Lausanne, 1744). By joining to these two books Newton's scientific letters inserted in the *Biographia Britannica*, we may make a tolerably complete collection of his works. Among the numerous translations that have appeared of the principal ones, we must not omit that of the *Principia* in French by Madame Duchâtelet, since it contains excellent notes supposed to be by Clairault. There are also two books in English, viz. H. Pemberton's "*View of Sir I. Newton's Philosophy*," (London, 1728, 4to), and C. Maclaurin's "*Account of Sir I. Newton's Philosophical Discoveries*," both of which will well repay the trouble of perusing them. It is, however, in the writings of the modern continental mathematicians, that we find the more complete developement of those brilliant discoveries which have shed so much lustre on the name of Newton. It is with the works of LAPLACE, Lagrange, Biôt, Lacroix, Monge, Garnier, Poisson, DELAMBRE, Bouchardat, Carnot, Bailly, Bernouilli, Euler, Bossut, Montucla, De Zach, Lalande, Francœur, Legendre, Poisson, Gauss, Haüy, &c. &c., that the student must become acquainted, before he can hope to attain to a thorough knowledge of the system of the universe. In science, it is perhaps more necessary than in any other species of knowledge intimately to understand what has been done by our predecessors; and it therefore becomes our duty to express our earnest hope, that our readers will not merely content themselves with studying the works of that great man whose discoveries we have in this treatise recorded, but that, endeavouring themselves to enter on the same illustrious career, they will diligently peruse the writings of the distinguished individuals whose names we have just mentioned. A list is given in *Hutton's Mathematical Dictionary* of the principal MSS. now in existence, that were written by Newton.

LIST

OF THE EDITIONS OF NEWTON'S WORKS.

- 1779-85 Works by Pp. Horsley. 5 vols. 4to. London.
 1744 Opuscula Mathematica, Philosophica et Philologica cura Castillioni, 3 vols. 4to. Lausanne et Geneva.

Various pieces are to be found in :

Commercium Epistolicum Collins.
 Gregory's Catoptrics.
 Birch's General Dictionary.
 Philosophical Transactions.
 Greave's Works.

} all enumerated at length in Watt's Bibliotheca Britannica.

Analysis per Quantitatum Series, Fluxiones, et Differentias cum Enumeratione Linearum Tertii Ordinis.

(printed originally with the Optics.)

- 1711 Analysis, etc. London. (Cura Jones.)
 1736 Analysis. Method of Fluxions and Infinite Series, translated by Colson. 4to. London.
 1737 Analysis. Method of Fluxions and Infinite Series. 8vo. London.
 1776 Analysis. Method of Fluxions and Infinite Series, by Colson. 4to.
 1740 Analysis. Méthode des Fluxions, etc. par Buffon. 4to. Paris.

Newtoni Arithmetica Universalis, sive de Compositione et Resolutione Arithmetica.

- 1707 Arithmetica Universalis. 8vo. Londini. (Cura Whiston.)
 1722 Arithmetica Universalis. 8vo. London.
 1732 Arithmetica Universalis. 4to. Lugd. Bat. 1732. (Cura Gravesande.)
 1761 Arithmetica Universalis cum Comment. Castillioni, 2v. 4to. Amstel.
 1728 Universal Arithmetick, by Ralphson and Cann. 8vo. London.
 1769 Universal Arithmetick, by Ralphson, with notes by Wilder. 2 vols. 8vo. London.
 1802 Arithmetique Universelle, par N. Beaudoux, avec des Notes. 2 vols. 4to. Paris.

Chronology.

- 1726 Abregé de Chronologie. See Watt's Bibl. Brit.
 1728 Chronology of Ancient Kingdoms amended. 4to. London.
 1728 Chronologie, par l'Abbé Granet. 4to. London.
 1745 Chronologie der Älteren Königreiche. 8vo. Hildburghausen.
 1672 Varenii Geographia. 12mo. Cantabr. }
 1681 Varenii Geographia. 12mo. Cantabr. } edited by Sir I. Newton.
 1712 Varenii Geographia. 8vo. Cantabr. }
 1687 Philosophiæ Naturalis Principia Mathematica. 4to. Londini.
 1713 Philosophiæ Naturalis Principia Mathematica. 4to. Cantabr. (COTESII.)
 1726 Philosophiæ Naturalis Principia Mathematica. 4to. Londini. (PEMBERTON.)
 1730 Philosophiæ Naturalis Principia Mathematica. 2 vols. 8vo. Londini. (DONICK.)
 1723 Philosophiæ Naturalis Principia Mathematica. 4to. Amstelodami. (COTESII.)
 1765 Philosophiæ Naturalis Principia Mathematica—Excerpta, cum Notis. 4to. Cantabrigiæ.
 1714 Philosophiæ Naturalis Principia Mathematica. 4to. Amstelod. (COTESII.)
 1739-42 Philosophiæ Naturalis Principia Mathematica, perpetuis Commentariis Illustrata, Communi Studio. Th. Le Seur et Fr. Jacquier. 4 vols. 4to. Genève, 1739, 40, 42.
 1760 Philosophiæ Naturalis Principia Mathematica, perpetuis Commentariis Illustrata Communi Studio. Th. Le Seur et Fr. Jacquier, 3 vols. in 4. 4to. Colon. Alibrog.

- 1822 *Philosophiæ Naturalis Principia Mathematica*, perpetuis Commentariis Illustrata, Communi Studio. Th. Le Seur et Fr. Jacquier, Editio Stereotypa. 4 vols. roy. 8vo. Glasguae.
- 1729 *Mathematical Principles of Natural Philosophy*, translated into English by Motte, with the Laws of the Moon's Motion, according to Gravity, by J. Machin. 2 vols. 8vo. London.
- 1819 ——— The same. 3 vols. 8vo. London.
- 1777 *Mathematical Principles of Natural Philosophy*, by Thorpe. 4to. London.
- 1802 *Mathematical Principles of Natural Philosophy*, translated and illustrated with a Commentary, by Dr. Thorpe. 4to. London.
- 1738 *Elémens de la Philosophie*, par Voltaire. 8vo. Amsterdam.
- 1759 *Principes Mathématiques de la Philosophie Naturelle* par Mad. du Châtelet. 2 vols. 4to. Paris.
- 1752 *Elémens de la Philosophie*, par Voltaire. 8vo. Dresden.
- 1781 *Philosophiæ Naturalis Principia Mathematica*. 4to. Dessoviae. (TESSANECK).
- 1699 Barrow's *Optical Lectures*, edited by Sir I. Newton. 4to. Londini.
- 1704 *Optics; or a Treatise of the Reflections, Refractions, Inflections and Colours of Light*. Also two Treatises of the Species and Magnitude of Curvilinear Figures. 4to. London.
- 1730 *Treatise of Optics*. 8vo. London.
- 1721 *Treatise of Optics*. 8vo. London.
- 1714 *Treatise of Optics*. 8vo. London.
- 1745 Two Treatises of the Quadrature of Curves, by Stewart. 4to. (vid. Watts.)
- 1706 *Optica*, Latinè reddita a Sam. Clark, necnon ejusdem Tractatus duo de Speciebus, etc. Fig. Curviline. 4to. Londini.
- 1719 ——— Idem. 4to. Londini.
- 1721 ——— Idem. 8vo. Londini.
- 1728 ——— Idem. 8vo. Londini.
- 1740 ——— Idem. 4to. Lausanne.
- 1773 ——— Idem, accedunt ejusdem Lectiones Opticæ, et Opuscula ad Lucem et Colores Pertinentia. 4to. Patavii.
- 1729 *Lectiones Opticæ*. 4to.
- 1728 *Optical Lectures* read in the Public Schoos. 8vo. Cambridge.
- 1762 *De Quadratura Curvarum*, ed. Melander. 4to. Lipsiæ.
- 1740 *Genesis Curvarum per Umbras, seu Perspectivæ Universalis Elementa Exemplis Coni Sectionum et Linearum Tertii Ordinis illustrata*, 4to. L. Bat.
- 1746 *Genesis Curvarum*, etc. 8vo. London, (ed. Murdoch.)
- 1797 *Enumeratio Linearum Tertii Ordinis*, edidit Stirling. 8vo. Paris.

Newton's System of the World in a Popular Way.

- 1727 *System of the World in a Popular Way*. 8vo. London.
- 1728 *De Mundi Systemate*. 4to. Londini.
- 1731 *De Mundi Systemate*. 4to. Londini.
- 1747 *Weltwissenschaft für Ungebildete*. 8vo. Brunswick.
- 1733 *Construction d'un Télescope Reflexion*. 4to. Paris.
- 1731 *Tables for Renewing and Purchasing Leases*. 12mo. London.
- 1808 *Tables for Renewing and Purchasing Leases*. 12mo. London.
- 1741 *Metaphysik* (in German) 8vo. Leipzig.
- 1717 *Postscript and Letter of Mons. Leibnitz to the Abbé Conti, with remarks and a letter to the Abbé*
- 1756 *Four Letters to Bentley on the Existence of a Deity*. 8vo.
- 1733 *Observations on Daniel and Revelations*. 4to. London.
- 1765 *Beobachtungen über Daniel und die Offenbarung Joannis*. Liegnitz. 8vo.
- 1737 *Observationes in Daniele et Apocalypsin Joannis*, Latine vertit Sudemann. 4to. Amstelodami.
- Corollaries by Whiston.

LIFE OF MAHOMET.

Introduction.

SECT. I.—In the seventh century of the Christian era a revolution took place in the religion of the Arabian people, which not only changed the manners and institutions of the Arabians themselves, but materially influenced the destinies of the largest portion of the civilised globe. The wandering and insignificant tribes of Arabia were by this religion united into a powerful nation, filled with a spirit of desperate enthusiasm, and sent forth to be the conquerors of the greatest part of Asia, of all the civilised people of Africa, and some of the most powerful kingdoms in Europe. In a few years these enthusiastic warriors spread their new faith from the Ganges to the Danube.

MAHOMET* was the author of these mighty changes. Arising amidst a rude and ignorant people, he assumed the attributes of the Messenger of God; he declared himself to be divinely inspired; to be expressly sent among mankind to overturn the idolatrous worship of his countrymen, and to establish in its place a new and more pure religion, dictated by the Almighty himself, and destined eventually to be the faith of all the nations of the earth. His countrymen believed in these magnificent pretensions; elected him to be their ruler, and quietly submitted their necks to the yoke of the absolute despotism which he instituted. The history of this extraordinary man, with an account of the institutions which he framed, we are about to lay before our readers.

Previous, however, to any history of the Arabian prophet, a short description must be given of the Arabian people at the time of his appearance. To know precisely what alterations he effected, and the good or evil of those alterations, we should learn the state of civilisation, the religion, government, and manners, which he attempted to improve.

Before we can decide whether the changes he introduced were changes for the better, we must erect some certain standard of excellence with which we may compare both the institutions which he originated, and those which he found already established. Upon the results of this comparison alone, can we estimate the character of the Arabian legislator. Our limits, indeed, will not permit us to perform this comparison as minutely as we could wish: we must indicate rather than describe the standard to which we refer; must present merely a sketch of the important particulars of his institutions, and upon this imperfect evidence pronounce the most impartial judgment we are able.

DESCRIPTION OF ARABIA.

Arabia, the country of Mahomet, has at all times been an object of curiosity to the intelligent observer, both on account of the peculiarities of its soil and climate, and the remarkable character of its inhabitants. Arabia *Proper* is bounded on the north-east by the Persian Gulf; on the south-east by the Indian Ocean. The Red Sea extends along the whole of its south-western coast; and an imaginary line drawn from the head of the Persian Gulf, to that of the Red Sea, completes the limits of the peninsula. The country contained within these limits exceeds above four times the magnitude of Germany or France*. More extended limits, however, are often assigned to the country designated by the term Arabia. Beyond the imaginary line running from Ailah, at the head of the Red Sea, to the head of the Persian Gulf, the territory of Arabia is sometimes made to extend on the west to Palestine, the isthmus of Suez and Syria; on the east to the Euphrates, and on the north to Syria, Deyar Beir, Irak, and Kuhestan†. By

* Mohammed is the correct orthography; we have, nevertheless, for obvious reasons, retained the more popular form.

• Gibbon's *Decline and Fall*, c. 50, p. 76.
† *Anc. Univ. Hist.*, b. 4, c. 21, p. 336. To those desirous of a particular description of the geography of Arabia we cannot do better than recommend M. D'Anville's Map; and the chapter of the *Universal*

the Greeks and Romans Arabia was usually divided, on account of the differences of the soil, into the Sandy, the Stony, and the Happy. By the Arabians themselves this division has not been adopted. The territory of Arabia *Proper*, bounded as we have described, was separated by them into five distinct provinces, viz. Hejaz, Yaman, Tehama, Naja, and Yamina. In the Happy Arabia, which occupied the greater part of the coast running along the Red Sea, and in the province of Hejaz, are situated the two famous cities of Mecca and Medina. The former was the birthplace of Mahomet; the latter, when he fled from Mecca, was the city of his refuge, the scene of his first victories—the first country over which he ruled with the authority of a king, and his last resting-place on earth. He died and was buried at Medina.

Arabia is situated under the burning sun of the tropics, and covered for the most part with arid sands, and barren, naked mountains. One part is somewhat exempt from this sort of soil. The hills at a small distance from the coast of the Red Sea are less barren, less scorched than the other parts of the country. The springs of water are there more numerous; the water less disgusting, the air more temperate: when compared with the parched and sandy deserts by which it is surrounded, it may appear an earthly paradise. This Happy Arabia, however, has no navigable rivers, few springs the waters of which are drinkable, and no productions save coffee and frankincense to exchange for the commodities of other countries. Having moreover few manufactures, it is poor both in the luxuries and comforts of life*.

INHABITANTS.

The inhabitants of Arabia are usually divided into two classes, viz. the Arabs of the deserts, or dwellers in tents, and the Arabs of the cities.

DESERT TRIBES.

The Arabs of the deserts are roving bands that wander with their herds over the immense sandy regions of which

their country is composed: living partly by the flesh and milk of their camels, partly by the plunder of the caravans which traverse their desolate plains. One illustration amongst a thousand ~~that~~ might be offered, is sufficient to mark their savage condition, and wild, predatory manners. As a mortification by which they hope to please the Divinity, at certain seasons of the year religious truces were observed. They thus, by way of penance, obliged themselves to observe the regulations of civilised society. "It was a custom among the ancient Arabs to observe four months in the year as sacred, during which they held it unlawful to wage war, and took off the heads of their spears; ceasing from incursions and other hostilities. During these months, whoever was in fear of his enemy lived in full security; so that, if a man met the murderer of his father, or his brother, he durst not offer him any violence. . . . Some of them, weary of sitting quiet for three months together, and eager to make their accustomed incursions for plunder, used by way of expedient whenever it suited their inclinations or convenience, to put off the observance of *Al Moharram* to the following month *Safar**."

Among a people thus unsettled, all government was, as might have been expected, exceedingly fluctuating and uncertain. They were not reclaimed from that barbarous state, in which the strong plunder the weak with impunity. Every man pursued his enemy, without recurring for assistance to the magistrate; and inflicted that punishment which his power and vengeance combined enabled and incited him to inflict. The authority of the magistrate was a shadow: the chief of a tribe might indeed sometimes obtain considerable personal influence; it was the man, however, not the office of magistrate, that was respected. Like all rude people, the Arabs were divided into several petty tribes, which were in fact so many separate nations; and the only species of government acknowledged by those inhabiting the deserts, was a nominal obedience paid by the members of the tribe to their elected chief. As among other nations in the same state of civilisation, their leaders governed rather by

History here quoted. Neither our limits nor our design permit us to be more minute.

* Sale's Pre. Disc., p. 3. Gibbon's Decline and Fall, c. 50. Niebuhr, c. 62, p. 86. Pinkerton's Collection. The limits of the Happy Arabia are variously assigned; the difference is a matter of little consequence.

* Sale's Pre. Dis. pp. 196, 198. Prideaux, Vie de Mahomet, p. 95. *Moharram*—that which is sacred and forbidden by the law. The first month of the year was called *Moharram*, because war was forbidden during its continuance. D'Herbelot, Bibl. Orient. *Safar* was the second month.

example than commands*. The chiefs were always the companions and guides of their tribes in arms; and sometimes the umpires of private disputes. The much vaunted independence of the Arab people, however, when closely investigated, appears little worthy of admiration. It consisted in the independence of the heads of families. The head of a family was subjected, or rather yielded obedience, to no one. But he exercised the most despotic sway over his own family. Wives, children, slaves were all completely under his uncontrolled dominion; and this patriarchal government as it is called, while receiving praises as a system of nearly perfect freedom, held nine-tenths of the people in the most abject slavery†.

Law, in such circumstances, could not be said to exist: written or unwritten, it was unknown to these wandering nations; unless we term *law* that sort of wavering opinion concerning honour in engagements, which necessity creates in every society however barbarous. This rude code of honour, as in all savage tribes, was handed down from generation to generation in a species of uncouth poetry, which, while it assisted the memory, delighted also the imagination of these barbarians. "God," said they, "has bestowed four peculiar things on the Arabs; that their turbans should be to them instead of diadems; their tents instead of walls and houses; their swords instead of intrenchments; and their poems instead of written laws‡." They could hardly have said any thing more descriptive of an uncivilised people.

ARABS OF THE CITIES.

The inhabitants of the cities were a still more remarkable race, for although they had abandoned the wandering life of their brethren, and taken up their abodes in cities, they were yet often induced to leave their homes, and indulge in the more active and uncontrolled life of the desert. Though living for the most part by merchandise and manufactures, they also participated in the business of robbery in the desert. The

life of the merchant was not found incompatible with that of the soldier, or rather robber; and he who to-day was in his counting-house, or work-shop, might, to-morrow, be at the head of his country's troops, or serving in the ranks as a soldier*. The children of the cities were often confided to the tribes of the desert; and thus became early inured to the toilsome and dangerous life of the wandering Arab†.

The inhabitants of Mecca, Medina, and the other cities thinly scattered along the shores of the Red Sea, appear to have been chiefly employed as wandering merchants. The tribes of the deserts brought whatever productions their country afforded, for the most part ostrich feathers, coffee, and frankincense, to the cities on the coast; and received in exchange the commodities which the city merchants had obtained at the fairs of Syria, Palestine, and Egypt. The traffic with these countries was carried on by means of caravans of camels; the merchants, like the travelling merchants or pedlars of the present day, accompanying their goods, and superintending the sale and purchase‡. By them was carried on the chief part of the trade existing between the Roman provinces, and the countries of the east; and the port of Jidda on the Red Sea was long celebrated as the emporium of Indian commerce§. This constant communication with more polished nations must, in some measure, have improved this portion of the Arabian people. They were, nevertheless, little better than barbarians. Neither on account of their

* "Mirum dictu, ex innumeris populis pars æque in commerciis aut in latrociniiis degit," was the expression of Pliny. (Hist. Nat. vi. 32.) This division of their time between robbery and commerce was the same in the days of Mahomet. Gibbon's Dec. and Fall, c. 50. Mod. Univ. Hist., vol. i., b. 1, c. 1, p. 27.

† Mod. Univ. Hist., b. 1, c. 1, p. 23. Gagnier, Vie de Mah., p. 86. "This was the season of the year in which the nurses of a country called *Badian*, that is, *pays champêtre*, came in great numbers to Mecca for the purpose of obtaining children to nurse.

Helima took him (Mahomet) into her own country, in which the air was temperate, as well on account of the fertility of the soil, as the sweetness of its waters." The *pays champêtre* of Gagnier appears to mean the wild country inhabited by the desert tribes.

‡ These caravans, like those of present times, were assemblages of merchants, who travelled in large numbers, to protect themselves against the attacks of the predatory desert tribes. Hostile tribes constantly endeavoured to capture the caravans of their enemies, much after the manner of European nations, plundering the vessels of industrious individuals, in the hopes of weakening the hostile nation. See Sale's Pre. Disc., sec. 1. p. 32. Prideaux, Vie de Mahomet, p. 10.

§ Prideaux, Vie de Mahomet, p. 11.

* Tacitus, Germ. c. 7.

† Niebuhr's Travels, c. 62, p. 84, Pinkerton's Collection.

‡ Sale's Pre. Disc., sec. 1, p. 38. Goguet, Origine des Loix, 1. Epo. p. 28. Mill's British India, b. 2, c. 9, p. 362, quarto ed. For a description of the wandering Arabs, see Niebuhr's Travels, c. 98, Pink. Collection, p. 131. There is every reason to suppose that their manners have remained unchanged from the time of Mahomet to the present day.

government, their laws, their religion, their literature, nor their manners, did they deserve any other title*.

Like the Arabs of the deserts, the inhabitants of the cities were divided into separate tribes; and not only were the different cities unconnected by the bond of a general government, but the citizens of one town were divided into tribes; each one acknowledging a separate chief, and regarding every other tribe with bitter and interminable hatred. The chiefs derived their power as well from their birth as their personal worth, the people electing them out of certain families, yet having perfect liberty to choose that member of the family who was most agreeable to them†. "The Bedouins, or pastoral Arabs, who live in tents, have many *schiechs* (*i. e.* chiefs), each of whom governs his family with power almost absolute. All the *schiechs* who belong to the same tribe acknowledge a common chief, who is called *Schiech es Schuech*, *Schiech of Schiechs*, or *Schiech el Kbir*, and whose authority is limited by custom. The grand *schiech* is hereditary in a certain family; but the inferior *schiechs* upon the death of a grand *schiech* choose the successor out of his family, without regard to age or lineal succession, or any other consideration, except superiority of abilities‡." The chiefs of the cities were elected much after the same manner.

GOVERNMENT.

The various provinces were split into small, independent states, possessing governments apparently different, though essentially the same §. In some a single prince, in others, the heads of tribes, who were really a band of princes, ruled like the *rajahs* of Indostan, or the *satraps* of Persia, with despotic sway over the people within their dominion. To this dominion there was no check but the dread of insurrection: there were no established *forms in the government*,

* See, for a minute description of the laws and customs of the Arabs, *Anc. Univ. Hist.*, vol. xviii., b. 4, c. 21. This description is by Sale.

† A curious plan was adopted in some places. "The order of succession in these cities was not hereditary, but the first child born in any of the noble families, after the king's accession, was deemed the presumptive heir to the crown. As soon, therefore, as any prince ascended the throne, a list was taken of all the pregnant ladies of quality, who were guarded in a proper manner till one of them was delivered of a son, who always received an education suitable to his birth." (*Anc. Univ. Hist.*, vol. xviii., b. 4, c. 21, p. 377.)

‡ Niebuhr's *Travels*, c. 62, p. 84.

§ *Mod. Univ. Hist.* b. 1, c. 1, p. 41. Sale's *Pre. Disc.*, s. 1, pp. 12—15. Gagnier, *Vie de Mah.* vol. i. p. 18.

no certain and specified *laws*, by which it could be controlled; neither did the *manners* of the people serve to diminish its mischievousness. Insurrection was the only existing check; and did no doubt in part keep down the atrocities of these rulers; but be it remembered that in every stage of society misery to a lamentable extent may be produced before the people can determine to brave the difficulties and dangers of an insurrection. Still more completely to ensure the subjection of the people, these rulers seized upon the functions and powers of religion. The ruling men were invariably the priests of the people, the propounders of oracles, and the guardians of the temples and idols*. The mysterious terrors of religion were thus added to the real dangers attendant on an opposition to the will of the governors. That will consequently was almost despotic. "After the expulsion of the Jorhamites, the government of Hejaz seems not to have continued for many centuries in the hands of one prince, but to have been divided among the heads of tribes; almost in the same manner as the Arabs of the deserts are governed at this day. At Mecca an aristocracy prevailed, where the chief management of affairs till the time of Mahommed was in the tribe of Koreish; especially after they had gotten the custody of the *Caaba* from the tribe of Kozrah†." But if the government were not better than that of the desert tribes, miserable indeed must have been the situation of the people. When men are congregated into cities, if every one be allowed to gratify his revenge, and punish his enemy, without recurring to the arbitration of the magistrate, the state must necessarily become one continued scene of violence and bloodshed. No security for person or property existing, there could be no accumulation, so that the horrors of poverty must necessarily have been added to the other evils arising from unceasing terror and alarm. Such was in reality the situation of the Arabian cities; every man sought to redress by his own power the injury he fancied he had received; and the peace and happiness of the com-

* *Mod. Univ. Hist.*, b. 1, c. 1, p. 7. Gagnier, *Intr. Vie de Mah.* pp. 51—53.

† *Caaba* was a temple at Mecca, held in extraordinary veneration by the people of Arabia universally, (Sale's *Pre. Disc.*, see p. 15,) and to which pilgrimages were made. Mahomet continued the practice. (Gagnier, *Intr. Vie de Mah.* pp. 56, 57.) Thus, like many other propagators of religion, moulding the forms of the religion which he attacked, to suit that which he preached.

munity were destroyed. The heads of tribes, moreover, waged continual war with each other. In the desert they were sufficiently willing to take offence at each other's conduct: opportunities of offence, however, on account of the immense extent of these desert regions, were far less frequent than within the narrow bounds of a city. Contact created rivalry—rivalry in power, in display, in enjoyment: rivalry begat hatred; and hatred bloodshed. To gratify the morbid vanity of a chief, the whole tribe was in arms. "This multiplicity of petty sovereigns occasions several inconveniences to the people in general. Wars cannot but be frequent among states whose territories are so intermingled together, and whose sovereigns have such a variety of jarring interests to manage.

No doubt such a multitude of nobles and petty princes, whose numbers are continually increased by polygamy, must have an unfavourable influence upon the general happiness of the people. It strikes one with surprise to see the Arabs, in a country so rich and fertile, uncomfortably lodged, indifferently fed, ill clothed, and destitute of almost all the conveniences of life. But the causes fully account for the effects.

Those living in cities, or employed in the cultivation of the land, are kept in poverty by the exorbitancy of the taxes exacted from them. The whole substance of the people is consumed in the support of their numerous princes and priests*."

LAW.

Added to this rude government was an equally imperfect *law*. The law, in fact, seems to have been in the rudest possible state; there being neither a written code, nor any collection of judicial decisions which successive judges were enjoined to follow. Judicial decisions were consequently in complete accordance with the desires of the rich. In a country where there is an established code to which every judge must adhere, justice for the most part is impartially administered. Some plausible reason must be assigned for every deviation; the approval of the government, the men of the law, and even of the people, must, in some measure, be obtained; and by this means a check is created, sufficient, in general, to protect the com-

munity from the grossest excesses of injustice. Under a despotic government, indeed, the law is obliged to yield to the will of the prince. When he wishes oppression, oppression is exercised. These cases must of necessity form but a small part of the whole number which come before the judge for decision; and when the will of the prince is not opposed to justice, the judge finds himself obliged to adhere to the letter of the law, that being, in fact, the will of the prince. Imperial Rome, France, and Germany, in which justice has been administered under a despotic monarch, according to a written code, are evidence of the truth of these observations. Where law had not been digested into a code, but is composed of recorded decisions, the consequence is nearly the same. "When on any particular portion of the field of law," says the philosophic historian of British India, "a number of judges have all, with public approbation, decided in one way, and when those decisions are recorded and made known, the judge who comes after them has strong motives of fear and hope, not to depart from their example*." But of law, either of one kind or the other, the Arabians were utterly destitute. The judge, that is the head of the tribe, decided according to what he deemed to be justice; and his unrecorded decision had no influence upon that of his successor. Uncertainty to the greatest possible extent was the necessary consequence. Those who sought a decision at the hands of the judge, found him unchecked by any existing law, and ready to listen with complacency to the suggestions of interest. He, therefore, who was the most powerful, or the most wealthy, had a certainty of success. Any change from such a state must have been a change for the better.

RELIGION.

Although the Romans made no extensive or permanent conquests in Arabia, the effects of their near neighbourhood were visible among the Arabian population. The constant disputes between the Christian sects of Syria, and the depressed situation of the Jewish people among the Christians, induced many of both persuasions to seek refuge among the idolatrous Arabs, who knew not, or knowing, regarded not, the dif-

* Niebuhr, c. 62, p. 86.

* Mill's Hist. of Brit. India, b. 2. c. 4, p. 170.

ferences in their creeds. Enjoying peace and security, these differing sects continued to increase in numbers, in wealth, and in power; and before the appearance of Mahomet spread their religion over the greatest part of Arabia. The tolerant spirit of the Arabian religion allowed them unmolested to erect places of worship, and to educate their children each according to his faith. This perfect freedom multiplied the Christian sects, and Arabia was long famous as being the prolific mother of heresies*.

The larger portion of the population, however, still adhered to their own national worship; which partook largely of the rude character that marked their other institutions. The conception which an ignorant and trembling savage forms of the character of the Divinity, and the means by which he endeavours to secure his favour, are in every age and country the same. He conceives the Godhead as irritable and revengeful; endowed with the moral weaknesses of humanity, but possessed of irresistible power. Heaven, in the imagination of the barbarian, is a picture of the earth, with this addition, that every circumstance is magnified. In heaven there are more delightful gardens, more delicious and balmy airs, more brilliant skies, than on earth. The beings who inhabit the heavens are more powerful, more wise, or rather, more capable of obtaining the objects they desire, than men; they are endowed with everlasting life, and subject to no diseases that afflict humanity. To please these divine beings, the trembling votary pursues the means that are found efficacious with earthly potentates. He prostrates himself before them in adoration; he exaggerates their perfections, and soothes them with continued adulation. To prove himself sincere, he subjects himself to useless privations; performs frequent, painful, fruitless, and expensive ceremonies. He subjects himself to fasts; he multiplies the observances of religion, and throws away his substance in manifestation of their honour. Solicitude in the regulation of his conduct, as it regards his own happiness, or that of his fellows, being intimately connected with his own

interests, is considered no proof of the sincerity of his professions towards the Divinity. The laws of morals, therefore, form but a small part of the religious code of any barbarous nation. The religion of the barbarous Arabian differed in no one particular from the foregoing description.

The ancient Arabs are supposed to have been what are termed pure theists: that is, they are supposed to have believed in, and worshipped, one, sole, omnipotent, and everlasting God. Historians, however, have seldom correctly appreciated the meaning of these magnificent expressions in the mouth of a savage. In his mind such language is connected with ideas and feelings far other than those which a civilised man would express by it. These splendid epithets are the mere expressions of flattery and fear. The deity, now addressed, and whose favour is the object of present desire, is for the time the sole object of adoration. The very same savage, who believes in a host of gods, will address each of them by the term of THE ONE. If among many deities one is thought more powerful than the rest, he will be the oftenest addressed, the oftenest soothed by flattery. No epithet is so flattering as that which asserts his single existence. It exalts him above all beings, and leaves him without a rival. No epithet, therefore, will be so frequently employed. Being the most constantly adored, this more powerful divinity will have this epithet expressive of his sole existence so frequently connected with his name, that it will at length be regularly attached to, and form part of, that name. This was precisely the case with the Arabian objects of worship. It is strange that when complete evidence of this fact exists, really intelligent and circumspect historians should have believed in the pure theism of the Arabians. Sale, like many others, was deceived by pompous expressions:—"That they acknowledge one supreme God, appears (to omit other proof) from their usual form of addressing themselves to him, which was this: 'I dedicate myself to thy service, O God!—I dedicate myself to thy service, O God! Thou hast no companion, except thy companion of whom Thou art absolute master, and of whatever is his.'" In the very next passage, however, Sale adds, "they offered sacrifices and other

* *Anc. Univ. Hist.*, b. 4, c. 21, pp. 378—392. *Koran*, Sale's trans., c. 53. *Sale's Pre. Disc.*, a. 2, p. 45, 46. *Gibbon's Dec. and Fall*, c. 50, p. 99. Pocock's notes to his translation of *Abulpharagius*, p. 136. Niebuhr states that in his time the Jews were in many parts of Arabia independent nations, and exceedingly numerous, (c. 69, pp. 92, 93.)

offerings to IDOLS, as well as to God, who was also often put off with the least portion, as Mahomet upbraids them*." Their scheme of divine government was simple, and like most others formed in the same state of civilisation. One god was supposed to be the supreme ruler; and subject to his sway was a vast multitude of inferior deities†. "The Arabs acknowledged one supreme God, the creator and lord of the universe, whom they called Allah Taala, the most high god; and their other deities, who were subordinate to him, they called simply Al Ilahat, i. e. goddesses‡." Idols were set up, and worshipped; every field, every rivulet, had its divinities. The fixed stars and planets were also exalted into gods, and as such received adoration. Heaven, moreover, was peopled with angels, who, with the wooden stone, and clay idols on earth, were regularly worshipped. How the Arabians can be supposed believers in a single god-head, under such circumstances, appears extraordinary§.

The manner in which these various divinities were rendered propitious, at once marks that no very exalted conception of a divinity existed in the minds of these barbarians. Fasts, pilgrimages, sacrifices, long and unmeaning prayers, were the means employed to obtain the divine favour.

"They are obliged to pray three times a day (some say seven times a day :) the first, half an hour or less before sunrise, ordering it so, that they may, just as the sun rises, finish eight adorations, each containing three prostrations: the second prayer they end at noon, when the sun begins to decline, in saying which they

* Sale, Pre. Disc., p. 21.

† "Divum pater atque hominum rex,"

O pater, O hominum Divumque æterna potestas," are expressions conveying an exact conception of the Arabian theology.

‡ Sale, Pre. Disc., p. 20.

§ "The Sabians of Mount Lebanon seem to pay a greater regard to Seth than the Supreme Being; for they always keep their oath when they swear by the former, but frequently break it when they swear by the latter."—(Anc. Univ. Hist., b. iv., c. 21, p. 383.) "A merchant of Mecca made an observation upon those swiſts, which I was surprised to hear from a Mahometan. The vulgar, said he, must always have a visible object to fear and honour. Thus, at Mecca, oaths, instead of being addressed to God, are pronounced in the name of Mahomet. At Mokha, I would not trust a man who should take God to witness the truth of any thing he happened to assert; but I much more safely depend upon him who should swear by Schiech Iehudeli, whose mosque and tomb are before his eyes."—(Niebuhr, p. 76.) Pocock, in his notes to his translation of "Abulpharagius" (p. 186), states the worship of angels and demons to have been common among the Arabs.

perform five such adorations as the former; and the same they do the third time, ending just as the sun sets. They fast three times a year: the first thirty days, the next nine days, and the last seven. They offer many sacrifices, but eat no part thereof, but burn them all. They abstain from beans, garlic, and some other pulse and vegetables*."

"The same rites which are now accomplished by the faithful Mussulman, were invented and practised by the superstition of the idolaters. At an awful distance they cast away their garments; seven times, with hasty steps, they encircled the Caaba, and kissed the black stone; seven times they visited and adored the adjacent mountains; seven times they threw stones into the valley of Mina, and the pilgrimage was achieved as at the present hour, by a sacrifice of sheep and camels, and the burial of their hair and nails in the consecrated ground From Japan to Peru the use of sacrifice has universally prevailed; and the votary has expressed his gratitude or fear, by destroying or consuming, in honour of the gods, the dearest and most precious of their gifts. The life of a man is the most precious oblation to deprecate public calamity; the altars of Phœnicia and Egypt, of Rome and Carthage, have been polluted with human gore; the cruel practice was long preserved among the Arabs. In the third century a boy was annually sacrificed by the tribe of the Dumatrians; and a royal captive was piously slaughtered by the prince of the Saracens, the ally and soldier of the emperor Justinian. A parent who drags his son to the altar exhibits the most sublime and painful effort of fanaticism; the deed or the intention was sanctified by the example of saints and heroes; and the father of Mahomet himself was devoted by a rash vow, and hardly ransomed by the equivalent of an hundred camels."† Such was the religion that Mahomet endeavoured to improve.

SCIENCE AND LITERATURE.

It may easily be supposed that a people, possessed of a government, law, and religion, such as we have described, were little advanced in science or literature. The only science to which the ancient Arabs made the slightest pretension, was that of astronomy; and

* Sale, Pre. Disc., p. 19.

† Gibbon, Decl. and Fall, c. 50, pp. 95, 96.

even in astronomy they had discovered little beyond the ordinary knowledge of an ignorant savage. Through the trackless deserts of Arabia it was impossible to travel without the aid of some sign in the heavens as a guide. The need of such a guide led them to watch the revolutions of the heavenly bodies; and the clear and unclouded skies of the country offered few obstacles to their search. They could not in time fail to observe some of the more obvious phenomena, and to be able in a long course of years to predict the recurrence of those phenomena. Some few extraordinary persons seem to have been capable of calculating eclipses with tolerable accuracy. This knowledge, however, was exceedingly rare, and beyond it they never advanced. Any thing like a theory, or general expression of the stated order in which the celestial phenomena occurred, never entered into their imaginations. That certain changes happened, they knew; but of the true system of the universe, or of any system whatever, they were profoundly ignorant*. Astrology, indeed, they studied with some assiduity, and implicit confidence; but the most important of their sciences, that to which they paid the greatest attention, was the interpretation of dreams†. The following is a specimen of their state of ignorance and superstition: "When any of them set out upon a journey, he observed the first bird he met with, and if it flew to the right, he pursued his journey; but if to the left, he returned home When a person, distrusting the fidelity of his wife, went a journey, he tied together some of the boughs of a tree, called *al rataim*; and if, on his return, he found them in the same position, he judged she had been faithful to him; if otherwise, not‡."

Their eloquence and their poetry have been considered evidence of a high state of civilisation. But the savages of North America have been long famed for their eloquence; and the bards of our barbarian ancestors prove that savages have possessed, and been delighted with poetry. The eloquence and poetry of a barbarian, bear, however, little resem-

blance to the eloquence and poetry of civilised life, being made up chiefly of bold figures and bombast expressions, without order, without propriety, and generally without meaning. The *species* of estimation, also, in which poetry was held among the Arabs, shows their rude and uncultivated condition. It was held in esteem as a means of preserving the remembrance of past events. Poetry assists the memory; and consequently the history, laws, and dogmas of religion, are universally among a rude people recorded in verse*. In the absence of written signs, verse may be of use in this way, but, when writing is known, can, for such a purpose, be no longer serviceable. That the Arabs generally were ignorant of writing is universally asserted. In after times, the Arabians, like other people, emerged from this state of ignorance. The age of Arab learning and literature, however, was more than two centuries after the death of Mahomet. When masters of Syria and Egypt, they became acquainted with the writings of the Greek philosophers, and for a long period were far superior to the nations of Europe in knowledge and civilisation.

MANNERS.

In spite of their ignorance, the Arabs have by historians been almost universally deemed a gentle and polite people; and an argument has, from this circumstance, been hastily drawn against the utility of all knowledge and cultivation. Nothing, however, can well be more untrue than the premises upon which this conclusion is founded.

Two circumstances have chiefly been insisted on, in favour of the Arab people: their hospitality and their politeness. The meaning of these terms, however, when applied to them, is sometimes misunderstood. The general conduct of the Arab was to plunder and to kill every defenceless traveller whom he chanced to meet†. There were particular cases in which he abstained from this barbarity; when, instead of robbing, he assisted the way-faring traveller. This extraordinary abstinence has been exalted into the virtue *hospitality*. He was thus generous to those of his own tribe, and to those who possessed a

* See Goguet, Orig. des Loix, l. 1. 3, p. 147, where the necessity, under which the Arabians lay, of some sign to guide them in their travels, is well explained. Also Abulpharagius, Pocock's translation, p. 6. The Arabian fairly acknowledges his countrymen to have been completely ignorant of the science of astronomy.

† Anc. Univ. Hist., b. iv., c. 21, p. 406—412.

‡ Ibid. p. 412.

* See Goguet, Orig. des Loix, l. 1. 1 pp. 43, 44. Henry (in Hist. of Britain, b. 1, c. 2 sec. 1, p. 163, states,) that the Ancient Britons were a very poetical people.

† Sale, Fre. Dis, pp. 196—198. Prideaux, Vie de Mah. n. 95.

passport from his chief; to others, he was a thief and a murderer. In a civilised country abstinence from plundering any one, whether kindred or not, is not exalted into a virtue; and for this simple reason: it is imposed by the law as an *obligation* upon every one; every infringement of it is punished; and so common is this boasted virtue, that the *absence* of it alone creates our wonder.

The traveller in the desert, or in any wild country, would perish if the few inhabitants that are scattered over its surface were to refuse him aid and shelter. But to save the life of a fellow creature, without risk or trouble to ourselves, is surely no great exercise of virtue; and so obvious is the necessity of such mutual assistance in a rude state of society, that no people placed in such circumstances ever failed to hold in high estimation, and also in some measure to practise, this species of hospitality.

When a country becomes thickly inhabited, the necessity for hospitality no longer exists, it consequently ceases to be praised or regarded. The traveller to whom I should refuse admittance, can find immediate refuge at the next inn; and consequently will not subject himself to the mortification of a refusal. The following exceedingly sensible observations cannot but be acceptable to the reader: "I forgot to speak of hospitality. It is on account of this virtue that the first ages have usually been esteemed A common interest apparently gave birth to this habit. There were no inns in the distant ages of antiquity. Hospitality was, therefore, exercised in hopes of a return of the like good office. A stranger was received, under the supposition that he might some day render the same service, should there be a necessity of travelling into his country; for hospitality was reciprocal. By receiving a stranger into his house, a man immediately acquired a right to be received into the stranger's; and this right was by the ancients regarded as sacred and inviolable, extending not only to those who contracted it, but also to their children and descendants. Besides, hospitality in those early days was not very expensive, as people travelled with few attendants. In short, the Arabs of the present day prove that hospitality is compatible with the greatest vices; and that this species of virtue is no evidence of goodness of heart or rectitude of manners. The general character of the Arabs is well

known; no people, however, are more hospitable*."

The politeness of an Arab is also something very different from the politeness of a civilised man. True politeness or courtesy consists in taking no offence where offence is not intended, and in so managing the common intercourse of life, that the forms adopted shall conduce to the ease and happiness of all parties concerned. All formalities that do not tend to this end, all distinctions that oppose it, are so many marks of rudeness and ignorance. How far the Arabs were from this standard, the following circumstance will testify:—

"The Arabs show great sensibility to every thing that can be construed into an injury. If one man should happen to spit beside another, the latter will not fail to avenge himself of the imaginary insult. In a caravan I once saw an Arab highly offended with a man who, in spitting, accidentally bespattered his beard with some small part of his spittle. It was with difficulty that he could be appeased by him, who, he imagined, had offended him, even though he humbly asked pardon, and kissed his beard in token of submission. But the most irritable of all men are the noble Bedouins, who, in their martial spirit, seem to carry those same prejudices even farther than the barbarous warriors who issued from the north, and overran Europe. Bedouin honour is still more delicate than ours, and requires even a greater number of victims to be sacrificed to it. If one schiech says to another, with a serious air, thy bonnet is dirty, or the wrong side of thy turban is out, nothing but blood can wash away the reproach; and not merely the blood of the 'offender, but also that of all the males of his family+." Who, when cursed with so punctilious and bloody minded a neighbour as this, would not be careful in his conversation and conduct?

"The refined malice of the Arabs refuses even the head of the murderer, substitutes an innocent to the guilty person, and transfers the penalty to the best and most considerable of the race by whom they have been injured. If he falls by their hands, they are exposed in their turn to the danger of reprisals; the interest and the principal of the bloody debt are accumulated; the individuals of either family lead a life of

* Gôguet. Orig. des Loix, 1 Epo., l. 6, p. 387.
+ Niebuhr, c. 107, p. 144.

malice and suspicion, and fifty years may sometimes elapse before the account be finally settled*."

The condition of the women may be taken as an accurate criterion of the politeness of a people. If we judge of the Arabs by this test, they will be considered barbarians. Even in the Koran, which certainly is an improvement on the previous manners of the Arabs, we find the following command :—

"But those wives, whose perverseness ye shall be apprehensive of, rebuke, and remove into separate apartments, and chastise them†."

"It must be remembered," says Sale, "that though by the Mahomedan law, a man is allowed to repudiate his wife, even on the slightest disgust, yet the women are not allowed to separate themselves from their husbands, unless it be for ill usage, (we have seen that beating them was not considered ill usage,) want of proper maintenance, neglect of conjugal duty, or some other cause of equal import; *but then she loses her dowry* (that is, when ill-treated, and seeking redress at the hands of justice, redress is given, but the means of subsistence are taken away,) which she does not, if divorced by the husband, unless she has been guilty of impudicity or notorious disobedience‡," of which men were the judges. In another passage, he says, "they disposed of widows even against their consent, as part of their husbands' possessions§."

In short, the women were absolute slaves; the mere instruments of their husbands' pleasure; confined, neglected, and despised. Professor Millar, in his work on the "Origin of Ranks," has acutely remarked, that the custom so prevalent in ancient times of the bridegroom giving presents to the father of the bride, was, in reality, nothing less than a custom of *buying* the daughter. That the Arabians followed this custom, is admitted by the Arabian authors

themselves. Ali, on his marriage with Fatima, the daughter of Mahomet, gave to him, according to tradition, twelve ounces of ostrich feathers, and a breast-plate*. That this was, in fact, a purchase, is shown by the manners of the Arabians of the present day, who preserve the custom, and do not attempt to conceal the nature of it†. It is almost needless to say, that slavery of the very worst description must necessarily be the heritage of the women, where such a custom exists. Taught to consider themselves the property of their purchasers, they must, moreover, become degraded in their mental and moral character; and their masters, also, cannot but feel the baneful influence of this abominable traffic. Any institution which permits men to exercise irresponsible power; which, above all, makes the exercise of it, daily, nay, hourly, and the scene of its employment, the bosom of their families, would, of itself, be sufficient to degrade a whole people. Politeness, or gentleness of mind or manners, on the part of the men, are utterly inconsistent with such barbarous treatment of the women. We may, therefore, without fear of error, conclude that the Arabs deserve not, on this head, the praise which has been somewhat lavishly bestowed on them.

Having now, as far as our limits will permit, given a general view of the situation of the Arab people at the time of Mahomet's appearance, we shall proceed to relate the history of the Prophet himself. With this view before us, we shall be able more easily to understand the several circumstances of his life; more correctly to judge of his abilities and his character. Knowing the people, among whom he arose—their state of civilisation, their manners, and their laws, we can, without much difficulty, discover whether he were superior to his age, and whether he advanced or retarded the improvement of his countrymen.

SECT. II.—A description of the sources from whence our knowledge concerning Mahomet is derived is, however, another necessary preliminary to the history of his life: an historian can hardly render a more important service

* Gibbon, Decl. and Fall, c. 50, p. 89. See also Niebuhr, c. 107, p. 144, for a story of Arab vengeance and brutality.

† Koran, c. 4, p. 101.

‡ Prel. Disc., p. 178. Husbands seem to have felt little compunction at repudiating their wives, with or without a pretext. Hassan, the son of Mahomet, considered a good man by his countrymen, "though his wives were all of them remarkably fond of him, was yet apt very frequently to divorce them, and marry new ones."—(Ockley's Hist. of the Saracens, vol. ii., p. 105, ed. 1718.) Nothing could mark a more complete recklessness concerning the happiness of women.

§ Sale, Prel. Dis., p. 183.

* Ockley's Hist. of Sarac., p. 21. He adds, in a note, "It seems to have been a custom among the Arabs for a bridegroom to make a present to the father of the bride." Among the ancient Germans, also, the custom was prevalent.—(Tac. Germ.)

† See "Mahometism Explained."—Translated by Morgan, vol. ii., p. 30.

to his readers than clearly to point out the evidence upon which his statements are founded.

The writers from whom the world has derived all its present information concerning the life and institutions of Mahomet may be divided into three classes, viz., the Arabian writers themselves; the contemporary Christian writers; and the more profound, liberal, and enlightened scholars of modern days.

1. Some years after the death of Mahomet, his works, supposed to be revelations from the Almighty, were collected and put into their present order by the then reigning Caliph. As the prophet could not write, he employed scribes, who wrote, at his dictation, those revelations of the Divine will, at many different and distant periods of his life. The palm-leaves, skins, and bones, upon which they were transcribed, were thrown without order into a trunk, which, with its contents, was placed in the custody of one of the prophet's numerous wives. Abubeker, who succeeded Mahomet as Caliph, is supposed to have had these important documents copied; and corrected according to the recollection of such of the prophet's followers as had committed to memory his revelations at the different times at which they were delivered. These several documents being then arranged in their present order, the whole collection was denominated the KORAN.

The discourses or revelations of the prophet having almost always been occasioned by the necessities of the moment, constant allusions are made in them to circumstances then occurring; they thus become historical evidence*.

In addition to these sacred writings of Mahomet himself, a book of TRADITIONS, called the SONNA, was collected, containing those actions and sayings of the prophet not recorded in the Koran. These traditions were gathered from his wives and companions, and are by one great sect of the Mussulmans, viz. the Sonnites, believed to be authentic and of authority equal to the Koran itself†.

These two books, in so far as they are narrations, may be considered the

narrations of *percipient* witnesses; of persons who saw and heard the circumstances and discourses they relate. And these are the only records that pretend to be the evidence of persons actually witnessing the circumstances narrated. The worth of these records as historical documents is dependent on the trustworthiness of those who related, and of those who collected, corrected, and attested them. If these narrators and collectors be unworthy of belief, the Koran and the Sonna are nearly worthless.

Two circumstances powerfully concur to depreciate the trustworthiness of these persons, viz. their interest and their ignorance. That they were deeply interested in their prophet's fame is too obvious to be insisted on. The renown of their prophet reflected on themselves; as that was increased so were they exalted. On the other hand, to be the followers of a fool or knave, was to prove themselves fools or knaves. But their own experience in the case of their prophet himself had taught them that to gloss over folly and knavery, no method was so efficacious as declaring it to be sanctioned by the divinity. The other equally powerful cause of untrustworthiness is their ignorance. Their ignorance and credulity are sufficiently manifested by the stories they have related and believed, and by the consequences they have derived from them. That Mahomet imposed upon many of them is certain, otherwise he could never have succeeded in establishing his pretended religion. But to believe him on the evidence he adduced to be the apostle of God; to put faith in the absurd stories he related; to acquiesce without investigation in the doctrines he promulgated, shows them to have been credulous, ignorant, and careless concerning the opinions they embraced. In any case this carelessness would materially have diminished the worth of their testimony, but utterly destroys it when, as in the present instance, a great degree of firmness was requisite to resist the prevailing torrent, as well as of acuteness and ability to gather evidence by which to detect and expose the imposture. But if so easily deceived, and so deeply interested, in what cases are they worthy of belief? In those where they have no manifest advantage in lying; where the matter to be judged was not above the comprehension of an ignorant barbarian; and where the falsity of the testimony, even of ignorant

* Sale, Pre. Dis. sec. 3, pp. 85, 86. Prideaux, Vie de Mah., pp. 47—61. Mod. Univ. Hist. b. 1. c. 2, p. 308.

† Mod. Univ. Hist. b. 1. c. 1, pp. 80, 82, 87. See also Sale, Pre. Dis. Sec. 8, pass.—“The different sects of the Mohammedans may be distinguished into two sorts: those generally esteemed orthodox, and those which are esteemed heretical. The former, by a general name, are called Sonnites or Traditionists.”

and interested witnesses, appears more wonderful than the circumstance they relate*.

Whatever the Arabian writers of after days have related, they have related on the authority of these traditions. These later historians cannot therefore be adduced as *additional* evidence. They repeat merely what they have heard; and having listened with minds little capable of distinguishing truth from falsehood, they have given implicit faith to every monstrous and improbable story favourable to their false prophet. Bred to be believers in his imposture, they were unfit for the task of examination.

2. The next class of historians are the Christian writers, contemporaries of Mahomet; and they are even less trustworthy than the Arabians themselves. They were equally ignorant, equally bigoted, equally interested, but they were not *percipient* witnesses. This combination of circumstances renders their testimony as untrustworthy as human testimony well can be. Of the Christians who were contemporaries of Mahomet, the Greeks of Constantinople were alone removed one degree from utter barbarism. On these men, such as they were, we must partly depend in describing the original institutions of the Arabian prophet. What merit ought to be ascribed to them may be easily learned. Witchcraft they devoutly believed in; and moreover gravely maintained the miracles of Mahomet to have been actually performed, but performed through the instrumentality of the devil. One thing, and one thing alone can be said in favour of these Greek authorities. Mahomet, during his life, had numerous enemies among his countrymen, who were impelled by their interest and their hatred to collect and spread whatever reports were to his prejudice. Many, doubtless, were invented, some, probably, were true. Whatever they were, the Greeks seized upon them with avidity, and triumphantly recorded the abominations of the impostor. By this means, evidence has been preserved (doubtful evidence indeed) against the prophet which the success of his religion has in his own country completely obliterated. Moreover, whatever these men

admit in favour of Mahomet may be pretty confidently relied on: for the good they could decently have denied, would never have been acknowledged.

3. Of the writers of modern days the character is somewhat different. Although feelings of hostility to our Mohammedan brethren still exist, yet the present knowledge of Europe renders it impossible for the same mendacity to pervade the writings of modern as of ancient historians. We have now almost universally ceased to regard our own faith as at all concerned in the estimation that may be formed of the character, opinion, conduct, or religion of Mahomet. As our interests have become less concerned, our judgments have become more impartial. We have learned moreover that the employment of calumny and falsehood in support of any system, however admirable, is neither just nor prudent. This knowledge has been but lately acquired. Prideaux himself, among the most violent and unfavourable of Mahomet's modern historians, admits, "that zealous Christians have foolishly invented fables, for the purpose of bringing the impostor into contempt*." In addition to these circumstances in favour of modern writers, is the high degree of excellence to which the knowledge of eastern literature, history, and institutions has now arrived. Our enlightened travellers have explored the vast regions of Asia, from one end to the other; have minutely described the customs of the people, and collected a mass of evidence respecting their various institutions far superior to that which our predecessors possessed. We may now speak with comparative certainty regarding the religious and political institutions of Mahomet. But of Mahomet himself, we must for ever rest contented with a broken and uncertain history. In spite of the researches of modern industry, every thing respecting him must remain involved in considerable obscurity. What is believed, is believed on extremely doubtful evidence. The facts related of him assume no connected form, but evidently appear the transactions of many years distant from one another. They are broken, isolated fragments of history, which cannot correctly be formed into a consecutive narrative. The histories of Mahomet hitherto written do not indeed appear thus disjointed. Historians are apt to confound

* Gagnier acknowledges the traditions of the Koran and the Sonna to be for the most part *Romances!* (Pre. p. 39.) See Mod. Univ. Hist. b. 1. c. 1. p. 80; where an account is given of the *genealogy* of these traditions,

* Vie de Mah., p. 57.

matters of inference with matters of fact, what they relate upon testimony, with what they infer as a consequence from that testimony; and where facts are wanting, to insert their own opinions as connecting links to the separate events really recorded. It will be our constant endeavour to keep them apart; to present to the reader's mind the circumstances which tradition has handed down, without mixing them up or confounding them with the conclusions which we and others have drawn from those circumstances. Knowing what depends upon evidence, what on our judgment, the reader will be able to give each its due weight and importance.

SECT. III.—Mahomet was born some time during the sixth century, at the city of Mecca. The precise year of his birth is disputed, and after much learned discussion the matter is left nearly as doubtful as when the dispute began. The most probable opinion, however, seems to be that of Elmacin, an Arabian writer, who, according to Hottinger, has placed his birth A. D. 571; but, according to Reiske, A. D. 572. The precise era of his birth being an unimportant circumstance, we shall dismiss it without further comment*.

The lineage of the prophet has also been a subject of furious altercation. Interest and blind prejudice both concurred to create and continue the controversy. On the one hand he was degraded to the lowest rank of society, while, on the other, he was exalted above most of his countrymen. The contemporary Christian writers hated the prophet, and wished to render him an object of contempt. To their ignorant and prejudiced minds, to describe him as having sprung from a plebeian race, appeared the most effectual means of rendering him despicable. In the same degree that the Christians believed themselves interested in degrading the Arabian prophet, did the Mahometans feel themselves called upon to exalt

him; and their ignorance, equal to that of their adversaries, deemed his pedigree an important consideration. What their interest and vanity counselled, they were not scrupulous in pursuing. An alliance with the great is often deemed an honourable distinction. Next to being great one's self, is to have great connexions. Inasmuch, therefore, as the votaries of Mahomet were deeply interested in enhancing his worth, it is not surprising that they should confer upon him a line of ancestry connected with the most ancient and interesting periods of their history. Ismael was usually supposed to be the founder of their race, and they were accustomed to regard him with reverence almost amounting to devotion. The tribe of Koreish, to which Mahomet belonged, had before the birth of the prophet laid claim to Ismael as their progenitor. This claim arising from the vanity of the tribe was eagerly laid hold of by his pious adherents; and what was before mentioned and maintained through a pardonable ostentation, became a dogma of religion, and was defended with all the fury which bigotry engenders.

Without the assistance of fable, Mahomet was able to vindicate to himself a high lineage among his countrymen. Abdallah, the father of Mahomet, was a younger* son of Abdol Motaleb, the son of Hashem. "Hashem," say the authors of the *Modern Universal History*, "succeeded his father Abdal Menaf, in the principality of the Koreish, and consequently in the government of Mecca, and the custody of the Caaba†." So far the genealogy of the prophet is supported by authentic history—that he was descended from the princes of his people cannot be denied. This descent from Ismael, Gibbon, after Sale, thus disproves: "Abulfeda and Gagnier describe the popular and approved genealogy of the prophet. At Mecca I would not dispute its authenticity; at Lausanne, I will venture to observe—1st. That, from Ismael to Mahomet, a period of two thousand five hundred years, they reckon thirty instead of seventy-five generations. 2d. That the modern Bedowens are ignorant of their history, and careless of their pedigree‡."

Abdallah, though of high lineage, was

* Those who are curious in such matters, may consult Bayle, art. Mahomet, note B.; and Gibbon, Decl. and Fall, c. 50, where the original authorities are mentioned. Gibbon shrewdly remarks—"While we refine our chronology, it is possible that the illiterate prophet was ignorant of his own age." Niebuhr, in speaking of an Arabian whom he met, says, "He told us that he was above seventy years of age; but his acquaintance affirmed that he was not under ninety. We had observed of the Mussulmans in general however, that they seldom knew their own age exactly. They reckon by the most remarkable incidents in their lives, and say, I was a child when such an event happened, or when such a one was governor of a city." (p. 22.) Gagnier says, that Mahomet was born A. D. 578. A. V. 569, vol. i., p. 71.

* Prideaux, Vie de Mah., p. 8, says, he was the eldest. This assertion Sale proves to be erroneous.

† Vol. i., p. 10, Mod. Univ. Hist.

‡ Decl. and Fall, c. 50.

possessed of little wealth; and as he died while his son was yet an infant*, we may easily suppose that little to have been diminished by the rapacity of his kindred. The uncles of Mahomet were numerous and powerful, and as in an age little removed from barbarism the rights of the weak are seldom respected, he was plundered with impunity. "The pagan Arabs used to treat widows and orphans with great injustice, frequently denying them any share in the inheritance of their fathers or their husbands, on pretence that the same ought to be distributed among those only who were able to bear arms; and disposing of the widows, even against their consent, as part of their husbands' possessions†." A proof that the orphan Mahomet was no better treated than his neighbours is, that he received out of his father's patrimony no more than five camels, and one Æthiopian slave.

How poor soever Mahomet may have been in worldly goods, his birth was rich in prodigies. We are told with unfeigned belief by his deluded followers that at the moment the favoured infant issued from his mother's womb, a flood of brilliant light also burst forth, and illuminated every part of Syria; the waters of the Lake Sawa disappeared; an earthquake threw down fourteen towers of the King of Persia's palace; the sacred fire of the Persians was extinguished, and all the evil spirits which had formerly inhabited the moon and stars were expelled simultaneously from their celestial abodes. The child itself manifested extraordinary symptoms. He was no sooner born, than he fell upon his face and prayed devoutly,—saying "God is great: *There is only one God, and I am his prophet.*" These stories, extravagant as they appear, were devoutly believed, even during the life of the prophet, and hundreds might have been found, who on their oath would have attested these manifestations of his supernatural gifts.‡ Even

in later days, when the people may be supposed more instructed, it seemed to matter little who worked a wonder, so that there was a wonder to be believed and attested. In the reign of Al Mohdi, the third Calif of Abbas, about one hundred and sixty years after the flight of Mahomet, "Hakem, or Al Mokanna, made a great many proselytes at Nakshat and Kash, by deluding the people with several juggling performances, which they swallowed for miracles; and particularly by causing the appearance of a moon to rise out of a well for many nights together."* Unlike the contemporary Christian writers, who sincerely believed many of these wonderful circumstances, and with ignorant simplicity ascribed them to the devil, the better instructed observer of modern days would consider it more likely that the ignorant should have been deceived, and the interested dishonest, than that nature should have been turned from her course, and her laws suspended for the gratification of evil demons.

The child thus magnificently favoured was nevertheless exposed to the miseries of want, and reduced to receive his education and subsistence from the charity of his uncle. At the early age of six years he lost his mother, Amena; and two years after, his grandfather Abdol Motaleb, who when dying earnestly confided the helpless orphan to the care of Abu Taleb, the eldest of his sons, and the successor to his authority. From him, though treated with kindness, Mahomet received a scanty education; but whether that education was equal or inferior to that of his countrymen, it is not easy to discover. Tradition states that at the time of Mahomet's first declaration concerning his mission, only one man in Mecca could write. If so, it is nothing wonderful that Mahomet, like the rest of his kindred, should also be unable to write†.

* According to some authorities, he died before the birth of his son. Gagnier says *after* (Vie de Mah. p. 84.) Abulpharagius states, that the father died two, the mother six, years after his birth. (Pocock's Trans., p. 6.)

† Sale, Prel. Disc., p. 188.

‡ Gagnier, Vie de Mah. pp. 77—83. These different prodigies are said to have been reported by the prophet's mother. Among the instances of credulity or dishonesty of the eye-witnesses of Mahomet's miracles, the following is a curious specimen. Ali, surnamed the Lion of God, was said to have torn from its hinges the gate of a fortress, and used it for a buckler. Abu Rafe, the servant of Mahomet, is said to affirm, that he himself, and seven others, afterwards tried, without success, to move

the same gate from the ground. Abulfeda, p. 90. Abu Rafe was an eye-witness, but who will be witness for Abu Rafe?—Gibbon's Dec. and Fall, c. 50.

* Sale's Pre. Disc. p. 241.

† The story nevertheless seems improbable. It appears (Mod. Univ. His., b. 1. p. 246) that Ebn Ali Taleb, the son of Abu Taleb, and the cousin of Mahomet, was one of the prophet's scribes. How did it happen that Abu Taleb was able to have his son taught, and not his nephew? The number of the prophet's scribes proves the art of writing to have been no extraordinary acquirement. At Medina the art was common; and as there seems to have been a constant communication between that city and Mecca, it appears incredible that so useful a piece of knowledge should not have been communicated from one to the other. Mecca being also a place of

Of the infancy, childhood, and youth of Mahomet, we know almost nothing. The blank in his history has, indeed, been supplied by fable—fable, created by the pious reverence of his followers. Wonderful stories of his wit, and of his favour with the Almighty, are lavishly recorded by the Arab historians. They are, moreover, as well attested as such stories usually are; the impartial historian, nevertheless, has but one course to pursue, viz., to reject them. It is more probable that the witnesses were false swearers, or confiding dupes, than that such tales should be true. Being destined by his uncle to the profession of a merchant, it is probable that his early life was passed in acquiring the knowledge then thought necessary to that profession. Concerning this point, however, we have not one particle of evidence. At thirteen years of age, indeed, he is said to have made a voyage to Syria, in the caravan of his uncle, and, some years after, to have performed the same journey in the capacity of factor to his mistress Cadijah*. On this simple circumstance his friends and his enemies have not failed to engraft a monstrous mass of absurdity and fable. Tradition states, that at Damascus he met with a Nestorian monk, from whom he derived important information respecting his future conduct in propagating his new religion. To believe that a child of thirteen, or a youth of twenty (for he could have been little more even during his second voyage,) had conceived the idea of a new religion, and formed a plan for propagating it, argues credulity that would appear utterly impossible, did we not know that no opinion, however extravagant, is rejected, when a suitable motive is held out to believe it. The early Christian historians of Mahomet's actions were desirous of stripping the impostor of every particle of worth. His religion was not only imputed to him as the most heinous of sins, but whatever applause might be his due, for the composition of the Koran, was to be

transferred to another; and a Christian monk was thought the most eligible person to receive the honour. The Arabians preserved an absurd tradition, concerning a prophecy by a monk of Damascus, relative to the future greatness and virtue of the prophet. "When he (Mahomet) arrived at Bosra, a certain learned monk, whose name was Bohira, came out of his cell, pressed through the middle of the crowd, and, seizing his hand, exclaimed, 'There will be something wonderful in this boy; his fame will spread through the East and West; for, when he approached, he appeared covered with a cloud*.'" This pious tale, which possibly the faithful Musulman devoutly believed, and related, for the honour of his prophet, has formed the groundwork for a story equally incredible, invented for the purpose of depreciating his merits; this being the monk, who is said to have instructed Mahomet in the doctrines of the Christian religion; to have laid a plan, in concert with the future impostor, for creating a new religion, which plan was not to be carried into execution till twenty years afterwards; and to have also composed the most valuable portion of the Koran. When Mahomet performed his first journey to Syria, with his uncle's caravan, he was, according to the best authorities, not above thirteen. His second was accomplished some time previous to his marriage (he married at five and twenty,) and, during this latter journey, he acted as factor for his mistress Cadijah, conveying her goods to the fairs of Bosra and Damascus. During both journeys he was ignorant of the Syrian language; both journeys were journeys of business; the time spent on them was, of necessity, exceedingly short; little, therefore, could have been afforded either to learn the language or converse with the inhabitants. Whatever merit there may be in the composition of the Koran (and assuredly it is exceedingly small,) it cannot, on this evidence, be transferred to the monk Bohira†.

There was no need, however, for an improbable fiction to account for the knowledge which Mahomet possessed, even supposing that necessity would not have taught him all that the Koran

traffic, the merchants must have hourly felt the want of some mode of recording their transactions. We suspect that the desire of saving their prophet from the accusation of being more ignorant than his countrymen has given rise to the above-stated tradition. Mahomet, in the Koran (c. 2. p. 52), commands all bonds to be made in writing; this could not have been done if writing had been an uncommon art. It is said, however, that a kinsman of Cadijah, Mahomet's wife, taught the prophet's scribes the Hebrew character. (Pocock's notes to Abulpharagius, p. 157.)

* Gagnier, b. i., c. 1, p. 94.

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† This monk had many names. Caab and Sergius were among his other cognomens. See Bayle, Art. Mah., note 7.

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The mission of Mahomet had hitherto been secret, the time was now arrived at which the Lord commanded him to make it known§. To this end he convened a large number of his kindred to a feast; forty of whom assembled round his board. The prophet rose, and thus addressed his wondering kindred:—"I know no man in the whole peninsula of the Arabs, who can propose to his relations any thing more excellent, than what I now do to you. God Almighty hath commanded me to call you unto him; who, therefore, among you will be my vizir, or assistant, and become my brother and vicegerent?" General astonishment kept the assembly silent; none offered to accept the proffered office, till the impetuous Ali burst forth, and de-

clared that he would be the brother and assistant of the prophet. "I," said he, "O prophet of God, will be thy vizir; I myself will beat out the teeth, pull out the eyes, rip open the bellies, and cut off the legs, of all those who shall dare to oppose thee." The prophet caught the young proselyte in his arms, exclaiming, "This is my brother, my deputy, my successor; shew yourselves obedient unto him." At which apparently extravagant command, the assembly broke up in confusion, testifying their mirth and astonishment by bursts of laughter*.

Not discouraged by the failure of this his first public attempt, Mahomet began now to preach openly before the people. He discovered to them that he was commissioned by the Almighty to be his prophet on the earth, to assert the unity of the Divine Being, to denounce the worship of images, to recall the people to the true and only religion, to bear the tidings of paradise to the believing, and to threaten the deaf and unbelieving with the terrible vengeance of the Lord†. His denunciations were efficacious; as they were well fitted for the imaginations of an ignorant people. "Because he is an adversary to our signs, I will afflict him with grievous calamities; for he hath devised contumelious expressions to ridicule the Koran—may he be cursed. How maliciously hath he prepared the same!—may he be cursed. I will cast him to be burned in hell. And what shall make thee understand what hell is? It leaveth not any thing unconsumed, neither doth it suffer any thing to escape; it scorcheth men's flesh: over the same are nineteen angels appointed. We have appointed none but angels to preside over hell-fire." "Verily, we have prepared for the unbelievers chains, and collars, and burning fire." "Verily, those who disbelieve our signs, we will surely cast out to be broiled in hell-fire: and when their skins shall be well burned, we will give them other skins in exchange, that they may taste the sharper torment‡." These terrible sufferings were to be the lot of the wicked—the wicked were those whom Mahomet disliked. "Those who dwell in gardens, *i. e.* paradise, shall ask one another questions concerning the wicked, and shall ask the wicked themselves, saying, what hath

* Mod. Univ. Hist., b. i., c. i., p. 44. Gagnier, b. i., c. 7, p. 104—109. Koran, c. 96.

† Bayle, art. Mahomet. Gagnier, b. i., c. 8.

‡ Sale, Prel. Disc., p. 57.

§ God commanded "him to arise, and preach, and magnify the Lord." Koran, c. 74. Gagnier, b. i., c. 2, pp. 112, 119.

* Sale, Pre. Disc., s. 2, p. 57. Mod. Univ. Hist., b. i., c. i., p. 47.

† Koran, c. 78, p. 472, Sale's trans.

‡ Koran, c. 74, p. 470, c. 76, p. 474, and c. 4, p. 10.

brought you into hell? They shall answer, we were not of those who were constant in prayer; neither did we feed the poor; and we waded in vain disputes, with the fallacious reasoners; and we denied the day of judgment, till death overtook us: and the intercession of interceders shall not avail them. What aileth them, therefore, that they turn aside from the admonition of the KORAN?*" To deny the efficacy of the Koran; to dispute upon the truth and reasonableness of his mission, were naturally in Mahomet's eyes the most heinous sins. By his friendly voice the people were warned of the dangers of disbelief; and besought by his moving eloquence to avoid eternal damnation, by putting faith in the APOSTLE OF GOD.

Among the most strange of Mahomet's stories promulgated at this period of his life, was the tale of his admission into the seven heavens, under the guidance of the angel Gabriel; through whose care and diligence he had been enabled in the course of one night to behold all the wonders of the heavenly regions, and to converse with the Almighty himself. The account which tradition has handed down of this extravagant fable is a tissue of the most dull and ridiculous absurdities; a story, in short, as destitute of fancy as of skill. We may easily suppose that a man of a poetic imagination could have composed a description of a journey through the boundless and glorious regions of heaven, captivating and misleading the minds of his hearers, by its splendid imagery, its gorgeous and startling embellishments. We may conceive him to have possessed them with vague and indefinite, but still with vast and wondering, conceptions of the magnificence of the celestial kingdom; of the power and beauty of its inhabitants; of its own dazzling and unspeakable glories. A well managed description, of such a character, might have had a powerful effect upon a rude and sensitive people. But the description which tradition has handed down, as given by Mahomet of his celestial journey, possesses no such poetical merits. He has described every thing upon a most extravagant scale; but unwisely endeavours to convey definite conceptions of the marvels he pretended to have witnessed. He relates by rule and measure, leaving nothing to the imaginations of his hearers. —This was so long—that so broad—this had so many eyes—this so many tongues;

—and while he thus strives to swell the imagination by mere arithmetic, he renders himself and his description ridiculous. In the first heaven he saw a cock so large that his head reached to the second heaven, which was at the distance of five hundred days' journey, according to the common rate of travelling on earth; his wings were large in proportion to his height, and were decked with carbuncles and pearls; he crows so loud every morning, that all the creatures on earth, except men and fairies, hear the tremendous sound. The second heaven was all of gold; and one of the angels who inhabited it was so large, that the distance between his eyes was equal to the length of seventy thousand days' journey. In the seventh heaven was an angel having seventy thousand heads, in every head seventy thousand mouths, in every mouth seventy thousand tongues, in every tongue seventy thousand voices, with which day and night he was incessantly praising the Lord. Such were the puerile conceptions of the prophet! Of this famous journey we shall give no further account; a more stupid fable it is impossible to conceive; and which, were it not evidence, would have deserved no mention by the historian. It satisfactorily proves three things, however, the poverty of the prophet's invention; the unbounded extent of his impudence; and the extraordinary credulity of his followers.

The fable at first met with no favourable reception; its extravagance and its absurdity were a little too glaring to be immediately, and without trouble, acquiesced in. Not till Abubeker had declared his complete and implicit reliance in the truth of the sacred fable, did the votaries of the prophet venture to distrust their understandings, and put faith in the astounding assertions of the holy man. Their faith was doubtless quickened by his furious denunciations of eternal torments against all who dared to disbelieve the sublime and miraculous adventure: terror was the result of these denunciations, proclaimed with vehemence and unblushing effrontery; and belief naturally followed in the train of terror. And thus the extravagant lie, which at first threatened the rising religion with early destruction, served, by a happy combination of circumstances, to contribute materially to its success*.

* They who desire to have a full description of this wonderful tale may consult Gagnier, who is peculiarly minute. Prideaux, moreover, does not let slip the

* Koran, c. 74, p. 471.

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* It must be remembered that suffering for an opinion is no proof of its truth; but is merely some evidence that he who suffers honestly believes that which he professes to believe.

proach or look on him. The angel then cried aloud, "O! MAHOMET, THOU ART THE APOSTLE OF GOD, AND I AM THE ANGEL GABRIEL." "Read," continued the angel; the illiterate prophet declared that he was unable to read. "Read!" Gabriel again exclaimed, "read, in the name of the Lord, who hath created all things; *who hath created man of congealed blood*; who hath taught the use of the pen; who teacheth man that which he knoweth not." The prophet read the joyful and mysterious tidings respecting his ministry on earth, when the angel, having accomplished his mission, slowly and majestically ascending into heaven, gradually disappeared from his wondering gaze*. This tale was by Mahomet related to his wife, who believed, or affected to believe, the sacred fable†. The next on the list of true believers were Zeid, the servant of the prophet, and ALI, the son of his uncle Abu Taleb. The impetuous youth, disdaining his two predecessors in the true faith, proudly styled himself the first of believers. The next and most important convert was Abubeker, a powerful citizen of Mecca, by whose influence a number of persons possessing great authority were induced to profess the religion of Islam. Three years were spent in the arduous task of converting six of these men. They were afterwards his chief companions, and with a few others were the only proselytes to the new religion before it became publicly known‡.

The mission of Mahomet had hitherto been secret, the time was now arrived at which the Lord commanded him to make it known§. To this end he convened a large number of his kindred to a feast; forty of whom assembled round his board. The prophet rose, and thus addressed his wondering kindred:—"I know no man in the whole peninsula of the Arabs, who can propose to his relations any thing more excellent, than what I now do to you. God Almighty hath commanded me to call you unto him; who, therefore, among you will be my vizir, or assistant, and become my brother and vicegerent?" General astonishment kept the assembly silent; none offered to accept the proffered office, till the impetuous Ali burst forth, and de-

clared that he would be the brother and assistant of the prophet. "I," said he, "O prophet of God, will be thy vizir; I myself will beat out the teeth, pull out the eyes, rip open the bellies, and cut off the legs, of all those who shall dare to oppose thee." The prophet caught the young proselyte in his arms, exclaiming, "This is my brother, my deputy, my successor; shew yourselves obedient unto him." At which apparently extravagant command, the assembly broke up in confusion, testifying their mirth and astonishment by bursts of laughter*.

Not discouraged by the failure of this his first public attempt, Mahomet began now to preach openly before the people. He discovered to them that he was commissioned by the Almighty to be his prophet on the earth, to assert the unity of the Divine Being, to denounce the worship of images, to recall the people to the true and only religion, to bear the tidings of paradise to the believing, and to threaten the deaf and unbelieving with the terrible vengeance of the Lord†. His denunciations were efficacious; as they were well fitted for the imaginations of an ignorant people. "Because he is an adversary to our signs, I will afflict him with grievous calamities; for he hath devised contumelious expressions to ridicule the Koran—may he be cursed. How maliciously hath he prepared the same!—may he be cursed. I will cast him to be burned in hell. And what shall make thee understand what hell is? It leaveth not any thing unconsumed, neither doth it suffer any thing to escape; it scorseth men's flesh: over the same are nineteen angels appointed. We have appointed none but angels to preside over hell-fire." "Verily, we have prepared for the unbelievers chains, and collars, and burning fire." "Verily, those who disbelieve our signs, we will surely cast out to be broiled in hell-fire: and when their skins shall be well burned, we will give them other skins in exchange, that they may taste the sharper torment‡." These terrible sufferings were to be the lot of the wicked—the wicked were those whom Mahomet disliked. "Those who dwell in gardens, *i. e.* paradise, shall ask one another questions concerning the wicked, and shall ask the wicked themselves, saying, what hath

* Mod. Univ. Hist., b. i., c. 1. p. 44. Gagnier, b. i., c. 7, p. 104—109. Koran, c. 96.

† Bayle, art. Mahomet. Gagnier, b. i., c. 8.

‡ Sale, Prel. Disc., p. 57.

§ God commanded "him to arise, and preach, and magnify the Lord." Koran, c. 74. Gagnier, b. i., c. 9, pp. 113, 119.

* Sale, Prel. Disc., s. 2, p. 57. Mod. Univ. Hist., b. i., c. 1, p. 47.

† Koran, c. 78, p. 472, Sale's trans.

‡ Koran, c. 74, p. 470, c. 76, p. 474, and c. 4, p. 10.

brought you into hell? They shall answer, we were not of those who were constant in prayer; neither did we feed the poor; and we waded in vain disputes, with the fallacious reasoners; and we denied the day of judgment, till death overtook us: and the intercession of interceders shall not avail them. What aileth them, therefore, that they turn aside from the admonition of the KORAN? * To deny the efficacy of the Koran; to dispute upon the truth and reasonableness of his mission, were naturally in Mahomet's eyes the most heinous sins. By his friendly voice the people were warned of the dangers of disbelief; and besought by his moving eloquence to avoid eternal damnation, by putting faith in the APOSTLE OF GOD.

Among the most strange of Mahomet's stories promulgated at this period of his life, was the tale of his admission into the seven heavens, under the guidance of the angel Gabriel; through whose care and diligence he had been enabled in the course of one night to behold all the wonders of the heavenly regions, and to converse with the Almighty himself. The account which tradition has handed down of this extravagant fable is a tissue of the most dull and ridiculous absurdities; a story, in short, as destitute of fancy as of skill. We may easily suppose that a man of a poetic imagination could have composed a description of a journey through the boundless and glorious regions of heaven, captivating and misleading the minds of his hearers, by its splendid imagery, its gorgeous and startling embellishments. We may conceive him to have possessed them with vague and indefinite, but still with vast and wondering, conceptions of the magnificence of the celestial kingdom; of the power and beauty of its inhabitants; of its own dazzling and unspeakable glories. A well managed description, of such a character, might have had a powerful effect upon a rude and sensitive people. But the description which tradition has handed down, as given by Mahomet of his celestial journey, possesses no such poetical merits. He has described every thing upon a most extravagant scale; but unwisely endeavours to convey definite conceptions of the marvels he pretended to have witnessed. He relates by rule and measure, leaving nothing to the imaginations of his hearers. —This was so long—that so broad—this had so many eyes—this so many tongues;

—and while he thus strives to swell the imagination by mere arithmetic, he renders himself and his description ridiculous. In the first heaven he saw a cock so large that his head reached to the second heaven, which was at the distance of five hundred days' journey, according to the common rate of travelling on earth; his wings were large in proportion to his height, and were decked with carbuncles and pearls; he crows so loud every morning, that all the creatures on earth, except men and fairies, hear the tremendous sound. The second heaven was all of gold; and one of the angels who inhabited it was so large, that the distance between his eyes was equal to the length of seventy thousand days' journey. In the seventh heaven was an angel having seventy thousand heads, in every head seventy thousand mouths, in every mouth seventy thousand tongues, in every tongue seventy thousand voices, with which day and night he was incessantly praising the Lord. Such were the puerile conceptions of the prophet! Of this famous journey we shall give no further account; a more stupid fable it is impossible to conceive; and which, were it not evidence, would have deserved no mention by the historian. It satisfactorily proves three things, however, the poverty of the prophet's invention; the unbounded extent of his impudence; and the extraordinary credulity of his followers.

The fable at first met with no favourable reception; its extravagance and its absurdity were a little too glaring to be immediately, and without trouble, acquiesced in. Not till Abubeker had declared his complete and implicit reliance in the truth of the sacred fable, did the votaries of the prophet venture to distrust their understandings, and put faith in the astounding assertions of the holy man. Their faith was doubtless quickened by his furious denunciations of eternal torments against all who dared to disbelieve the sublime and miraculous adventure: terror was the result of these denunciations, proclaimed with vehemence and unblushing effrontery; and belief naturally followed in the train of terror. And thus the extravagant lie, which at first threatened the rising religion with early destruction, served, by a happy combination of circumstances, to contribute materially to its success*.

* Koran, c. 74, p. 471.

* They who desire to have a full description of this wonderful tale may consult Gagnier, who is peculiarly minute. Prideaux, moreover, does not let slip the

The apostle, who was at first derided, came at length to be feared. The people flocked to hear his doctrines, and as they retired, wondering and believing, general consternation reigned among the governors of Mecca. Frightened by his growing influence they imprudently endeavoured to arrest the evil, by punishing the offender. For some time, however, the power of Abu Taleb, the prophet's uncle, defended him against these hostile attacks, which served, by manifesting the alarm and hatred of the nobles, to increase Mahomet's fame and importance. Persecution gave him strength, by bringing him before the public. Once known, he gained sympathising listeners among the benevolent, because a persecuted man; and blindly believing votaries among the ignorant and fearful, because a bold and vehement declaimer against wickedness, as well as an eloquent describer of the horrible torments attached to unbelief. In the seventh year of his mission, the heads of the tribe of Koreish made a solemn league with one another, engaging themselves to have no commerce or connexion with the families of Hashem and Al Motaleb. While Abu Taleb lived the league was of no avail; the power of the uncle defended the nephew against the design of his enemies. At length at the end of the seventh year Abu Taleb died; and a few days after his death Mahomet was left a widower, by the decease of Cadjah. In his affliction he termed this fatal year the year of mourning*.

The unprotected prophet was now completely exposed to the attacks of his enemies. His only safety was in flight, and had not the city of Medina been friendly to his case, the religion of Islam would have been crushed in the bud. The fame of Mahomet, however, had extended far beyond the walls of his native town. Distance, by shrouding him in mystery, increased his influence. While he was scorned at,—derided

at Mecca, he was worshipped at Medina*. A secret deputation from the city of Medina waited on the apostle, and an alliance was entered into "during two secret and nocturnal interviews, on a hill in the suburbs of Mecca†." Seventy-three men, and two women, having professed the faith of Islam, as well as some yet unbelievers, met the prophet and proffered him assistance. "What recompense," said they, "have we to expect should we fall in your defence?" "PARADISE," exclaimed the confident apostle. They promised him fidelity and allegiance.

Abu Sophyân succeeded Abu Taleb in the government of Mecca. In him Mahomet found a mortal enemy to his family, his religion, and himself. The idols, against which Mahomet had preached, were, by Abu Sophyân, devoutly revered; and the new religion abhorred as an incentive to the most horrible sacrilege. No sooner was he called to the head of the state than he determined to exterminate both the apostle and his religion. A council of the hostile Koreish was convened, and the death of Mahomet decided‡. The prophet declared that the angel Gabriel had revealed to him the atrocious conspiracy. We may safely suppose, nevertheless, that a human spy revealed the secret. However obtained, the information determined Mahomet to seek safety in flight; but so closely was he watched by his enemies, that he escaped only through the devoted zeal of Ali, who, wrapped in the green mantle of the apostle, lay down upon his bed and deceived the assassins, who besieged the house of his friend. Our applause is due to the intrepidity of the youthful zealot, even though he was zealous in favour of error. He who is willing to offer up his life in defence of the principles he deems correct, has made one important step towards being a perfect character; he has the *will* even if he have not the *knowledge* to be virtuous. Mahomet, in the mean time, with his faithful friend, Abubeker, escaped to the cave of Thor, three miles from Mecca, and there hid himself three days from his pursuers. A cherished tradition of the Arabs states, that the pursuers having arrived at the mouth of the cave, were deceived by the nest of a pigeon

opportunity of dealing in the marvellous, and of abusing the prophet. The ridiculous stories which Mahomet coined for himself have not been considered sufficient. Some persons, probably the Greek Christians, forged a host of others; among which, that of a pigeon being always seated on the prophet's shoulder, and communicating to him past, present, and coming evils, holds a conspicuous station. To this Pope alludes in the line—

"Nay, Mahomet, the pigeon at thine ear."

DUNCIAN.

See Bayle, Art. Mahomet, rem. v.; and Pocock, not. in Spec. Arab. p. 186.

* Sale, Pre., Dis. sec. 2, p. 60. Abulfeda, p. 28,

* Mod. Univ. Hist., b. 1, c. 1, p. 84.

† Gibbon, Dec. and Fall, c. 50. Sale, Pre. Dis., s. 2, p. 63. Abulfeda, Vit. Moh. p. 40.

‡ D'Herbelot, Bib. Orient., p. 445.

made at its entrance, and by a web which a spider had fortunately woven across it; believing these to be sufficient evidence that no human being was within, they desisted from all further examination. Mahomet and Abubeker left the cave upon the departure of their enemies, and after a toilsome journey, arrived in safety at the friendly city of Medina. This flight of their prophet has become the Mussulmans' æra, the well known *Hejdira* of the Mohammedan nations*.

From a fugitive Mahomet became a monarch; no sooner had he arrived at Medina, than he found himself at the head of an army devoted to his person, obedient to his will, and blind believers in his holy office. The *fugitives* from Mecca, and the *auxiliaries* of Medina, (the two parties into which Mahomet's followers were now divided) gathered round their chief, and with friendly emulation vied with each other in obedience and in valour. To prevent all jealousy between the brethren, Mahomet wisely gave each one a friend and companion from the rival band; each *fugitive* had for his brother one of the *auxiliaries*. Their fraternity was continued in peace and in war, and during the life of the prophet their union was undisturbed by the voice of discord.

The first act of Mahomet after his arrival at Medina shows at least his policy, perhaps his devotion. He built a temple in which he might celebrate the offices of his religion, and publicly pray and preach before the people. The land upon which this temple or mosque was built belonged to two orphans; and the enemies of Mahomet have not failed to assert that he despoiled the helpless children of their property. The accusation, however, has been vehemently denied, and we cannot but feel that in a stranger, in one depending entirely upon public estimation for his defence, it would have been the height of impolicy to have committed such an act at such a time. That Mahomet was a deep politician, no one has doubted; that to have robbed two orphans of their property would have rendered him and his religion unpopular is, we think, equally indisputable. How then can we believe him to have erred so egregiously at so critical a moment †?

He now, in his own person, combined both the temporal and religious power; he was general of his armies, the judge of his people, and the religious pastor of his flock*. And so intense was the devotion of his followers, that his spittle, a hair that dropped from his person, the water in which he washed himself, were all carefully collected and preserved as partaking of the apostle's holy virtue. The deputy of the city of Mecca beheld with astonishment this blind and devoted obedience and veneration. "I have seen," said he "the Chosroes of Persia, and the Cæsar of Rome, but never did I behold a king among his subjects like Mahomet among his companions."

While the religion of Islam† had more to fear than to hope from persecution, the precepts of Mahomet breathed humility and benevolence. "Let there be no violence in religion," was the command of the prophet in Mecca‡; but in Medina, when at the head of an army, and able to combat with his enemies, he assumed a widely different tone. "O true believers! take your necessary precaution against your enemies§, and either go forth to war in separate parties, or go forth all together in a body. . . . Let them, therefore, fight for the religion of God, who part with the present life in exchange for that which is to come; for whosoever fighteth for the religion of God, whether he be slain or victorious, we will surely give him great reward." . . . "And when the months wherein ye are not allowed to attack them, *i. e.* unbelievers, shall be passed, kill the idolaters, whosoever ye shall find them, and take them prisoners, and besiege them, and lay wait for them in every convenient place||." The commands of the prophet were followed to the letter. The first warlike attempt of the believers was, nevertheless, unsuccessful-

* Koran, c. 4, p. 107.

† Islam. The proper name of the "Mohammedan religion, which signifies the resigning or devoting one's self entirely to God and his service." Sale, Koran, c. 3, p. 57. See also Pre. Dis., s. 4, p. 92. Moslem. Musulman. "The Arabic word is Moslemûna, in the singular Moslem, which the Mohammedans take as a title peculiar to themselves. The Europeans generally write and pronounce it Musulman." (Sale, Kor. c. 2, p. 24.) Both words have the same meaning as Islam, and are derived from the same root.

‡ Koran, c. 2, p. 48.

§ This is explained by Sale to mean, be vigilant, and provide yourselves with arms and necessaries. Koran, c. 4, p. 107; and Sale's note.

|| Koran, c. 4, pp. 108, 109, c. 9, p. 238. The command to war against the enemies of the faith is repeated in chapters 2, 4, 8, 9, 22, and 47. See also Sale, Pre. Disc., p. 188.

* Hejdira, in Arabic, signifies *flight*. According to most authorities it happened 16th July, A. D. 622. Bayle, art. Mah. Mod. Univ. Hist., b. 1, c. 1, p. 98.

† Sale, Pre. Disc., sec. 2, p. 67. Gibbon's Dec. and Fall, c. 50, p. 127. Frideaux, Vie de Mah, p. 86.

ful. Mahomet having learned that a caravan, the property of the hostile Koreish, was on its way from Syria to Mecca, dispatched his uncle, Hamza, with a party of thirty horse to capture it. Hamza, however, discovering the caravan to be guarded by three hundred men, desisted from his hostile enterprise, and returned without the expected booty. On the plain of Beder, Mahomet, at the head of his troops, effaced the shame of this failure. A rich caravan proceeding to Mecca, and guarded by Abu Sophyân, with between thirty and forty men, occasioned the contest. The spies of Mahomet informed him that this rich and apparently easy prey was within his grasp. He advanced with a few followers in pursuit of it; but before he could overtake the unprotected band, Abu Sophyân had sent for a reinforcement from Mecca. A troop, consisting of nine hundred and fifty men, among whom were the chief persons of the city, instantly obeyed the summons. Mahomet was posted between the caravan and the coming succour, being able to oppose to this formidable force no more than three hundred and thirteen soldiers; mounted for the most part on camels; some few (according to some authors, not more than two) being mounted on horses. Undismayed by this disparity of force, Mahomet determined to try the event of a battle, and risk his fortune and perhaps his life upon the contest. The troops were persuaded to engage the superior forces of the enemy, and for the present to abandon the tempting prize of Abu Sophyân's rich caravan. Mahomet animated them by his prayers, and in the name of the Most High promised them certain victory. However assured he might have been of divine assistance, he was careful to let slip no human means of securing success. An entrenchment was made to cover the flank of his troop, and a rivulet flowed past the spot he had chosen for his encampment, and furnished his army with a constant supply of water. When the enemy appeared descending from the hills, Mahomet ordered his soldiers to the attack; but before the armies could engage, three combatants, Ali, Al Hareth, and Hamza, on the side of the *Moslems*, and three of the Koreish, joined in single conflict. The Moslem warriors were victorious, and thus gave to both armies a presage of the coming

engagement. The prophet, with Abubeker, at the commencement of the battle, mounted a pulpit, fervently demanding of God the assistance of Gabriel, and three thousand angels*; but when his army appeared to waver, he started from his place of prayer, mounted a horse, and flinging a handful of dust into the air, exclaiming, "May their faces be confounded," rushed upon the enemy. Fanaticism rendered his followers invincible; the numerous forces of the Koreish were unable to break the ranks or resist the furious attacks of his confiding soldiers. They fled, leaving seventy of their principal officers dead upon the field, and seventy prisoners in the hands of the enemy*. Of the Moslems, only fourteen were slain: the names of the slaughtered warriors have been handed down to posterity, and enrolled among the list of pious martyrs, whom the faithful Mussulman is taught to worship. The victorious army stripped the dead bodies of their enemies, insulted, and threw them into a well. A more convincing proof of their barbarity and ignorance could not have been desired. The child in his anger beats the inanimate object of his displeasure; the savage, equally ignorant, and unable to conceive the lifeless corse wholly destitute of will and consciousness, satisfies his ferocious vengeance, and exercises his brutal ingenuity on the inanimate trunk of his adversary. Only two of the prisoners, however, were sacrificed to the anger of the prophet. Al Nodar, and Okba, at his command, suffered death by the hand of Ali, the remainder were afterwards ransomed by their relations. Part of the caravan was captured, but the greater portion arrived safely at Mecca†. The spoils, however, arising from the ransom of the prisoners, and the partial plunder of the caravan, amounted to a considerable sum; the fifth part taken for the prophet's share, being no less than twenty thousand dirhems of silver‡.

The Moslems now hoped to remain at peace; and for some time their expectations were fulfilled. Tradition says that

* Mod. Univ. Hist., b. 1, c. 1, p. 108.

† Ib. b. 1, c. 1, sec. 2, p. 110.

‡ Gibbon's Dec. and Fall, c. 50, p. 132. It would seem that this sum was obtained in a subsequent capture, and not from that of Abu Sophyân's caravan, the greater part of which escaped at the battle of Beder. Mod. Univ. Hist., b. 1, c. 1, sec. 2, p. 118. Dirhem. "A dirhem and a half weighs a drachm; so that there are twelve to an ounce, weighing eight drachms." D'Herbelot, Bib. Orient. Art. *Dirhem*.

* Sale, note 2. Koran, c. 3, p. 66.

the disturber of this happy tranquillity was a Jew, the son of Al-Ashraf, by name Caab; who being a poet, deplored in touching verses the unhappy fate of those enemies of Mahomet who fell at the battle of Beder, and had the hardihood to sing his poems to the people within the walls of Medina. Mahomet, when informed of Caab's conduct, exclaimed, "Who will deliver me from the son of Al-Ashraf?" A ready instrument was not wanting: Mohammed, the son of Mosalama, answered, "I, O Apostle of God, will rid you of him." Caab was soon after murdered by Mohammed, while hospitably entertaining one of the assassin's followers. War was immediately renewed*.

In the next year, the third of the Hejira, the Koreish assembled an army of three thousand men, under the command of Abu Sophyân, and proceeded to besiege the prophet in the city of Medina. Mahomet determined to await the attack within the walls of the city. His former victory, however, had too much elated his troops to allow them to pursue this prudent course. They demanded of the prophet to be led out to battle, and he unwisely yielded to their clamorous supplication. Impelled also by the same ardour that influenced his followers, he unwarily promised them certain victory. The prophetic powers of the Apostle of God were to be estimated by the event. Mahomet in every encounter seems to have manifested in a high degree the talents of a general; his troops were always arranged in the manner best suited to the occasion, and he might fairly assert that he owed his success as much to his own intellect as to the valour of his soldiers. In the present instance, his army, consisting of about one thousand men, was advantageously posted on the declivity of a mountain, near Ohad, four miles from Medina. Three standards were confided each one to a separate tribe, while the great standard was carried before the prophet himself; and a chosen band of fifty archers were stationed in the rear with peremptory orders to remain there, till commanded to the attack by Mahomet himself. The conflict commenced by the Moslems charging down the hill, and breaking through the enemy's ranks. Victory or Paradise was the reward promised by Mahomet to his soldiers, and they strove with frantic enthusiasm to obtain the expected recompense. The

line of the enemy was quickly disordered, and an instant and easy victory seemed about to crown the efforts of the Moslem troops. At this moment the archers in the rear, impelled by the hope of plunder, deserted their station, and scattered themselves over the field. Khâled, an experienced general of the Koreish, seized the favourable opportunity; and furiously charging the army of Mahomet on the flank, dispersed their disordered and unguarded flanks, and turned the fate of the day. The soldiers of Mahomet began to give way in every direction; Khâled called aloud that Mahomet was slain, and the rout became general. The prophet endeavoured in vain to rally his broken troops: he fought with desperate valour; exposed his person, where the danger appeared greatest; was wounded in the face by a javelin, had two of his teeth beaten out by a stone, was thrown from his horse, and would inevitably have been slain, but for the determined valour of a few chosen adherents, who rescued him from the throng, and bore him away to a place of safety. The day was utterly lost; seventy of his soldiers were slain, and his reputation was in imminent peril. His followers murmured, and asserted that the will of the Lord had not been revealed to him, since his confident prediction of success had been followed by signal defeat. The prophet threw the blame upon the sins of his people: the anger of the Lord, he said, had fallen upon them, in consequence of their security. The Lord had determined to try who were the true believers, who the faithless. "Did ye imagine that ye should enter Paradise, when as yet God knew not those among you who fought strenuously in his cause; nor knew those who persevered with patience*." By these miserable shifts he endeavoured to excuse the falsity of his prophecy. Abu Sophyân, however, did not pursue his success. Eastern warfare depends upon so many chances, that to account for this strange neglect is impossible. In the east the army that this week is victorious, may by the next be melted away and dispersed. They had not then, and they have not now, any mode of regular warfare. No provision is made for a long and continued plan of operations. A distant end, to be attained by means of a series of many intervening actions, is never conceived by an eastern general. He assembles a number of soldiers, and with

* Gag. Vie de Mah. pp. 351, 2.

* Koran, c. 3, p. 80.

his tumultuary army hastens to a general conflict. If successful enough to annihilate his enemy by one blow, the object of his enterprise is attained; if not, it must be referred to another and more favourable opportunity. To keep his army in the field, to feed, pay, and clothe them during a year's campaign, seems almost impossible. The different armies of the Arabs were bands hastily summoned on some sudden emergency; impelled by the hope of plunder they readily followed to the field; when defeated of their object, they as readily dispersed.

At the commencement of the next year war was again renewed, and Mahomet was now successful. The mode in which he freed himself from one of his opponents at this period, deserves to be recorded. Being informed that Sophyân the son of Khâled was collecting men for the purpose of attacking him, he ordered Abdo'llah the son of Onaïs surnamed Dhu'l-Malldhrat, that is, *a man ready to undertake anything*, to assassinate Sophyân. Abdo'llah obeyed his prophet's commands, and murdered Sophyân in the valley of Orsa. He immediately returned to Mahomet, who upon hearing the success of his enterprise, gave him in sign of his friendship the cane which he usually carried*.

We have neither space nor inclination to enumerate the various battles fought by Mahomet during the five succeeding years. Suffice it to say, that according to the computation of some authors, no less than twenty-seven expeditions were undertaken, in which he personally commanded; and in which nine pitched battles were fought†. During the same period, he was besieged in Medina, by the implacable Koreish; but, by his own skill, and the bravery of his troops, he repelled all their attacks, and eventually dissolved the confederacy into which they had entered with the neighbouring tribes. In the sixth year of the Hejira, with fourteen hundred men, he meditated what he asserted to be a peaceful pilgrimage to the holy temple of Mecca. Entrance into the city being refused by the people, the prophet, in his anger, determined to force his way. At this critical juncture an ambassador was dispatched from Mecca to demand a peace. The policy of Mahomet induced him to lay aside

his determination of assaulting his native city, and to accept the peaceful offers of his countrymen. A truce of ten years was consequently concluded between the prophet and the Koreish.

Two years had hardly elapsed when Mahomet accused the people of Mecca of a breach of their engagement. When a man is really desirous of quarrelling, a pretext is never wanting. He was now strong, and his enemies were weak. His superstitious reverence for the city of his nativity, and for the temple it contained, served also to influence his determination for war. The time since the concluding of the truce had been skilfully employed in seducing the adherents of the Koreish, and converting to his religion the chief citizens of Mecca. With an army of ten thousand men, he marched to besiege it, and no sooner did he appear before the walls, than the city surrendered at discretion. Abu Sophyân, the inveterate enemy of Mahomet and his religion, presented the keys of the city to the conqueror; and yielding to the arguments enforced by the scimitar of the furious Omar, he bowed down before the prophet, and acknowledged him to be the apostle of God. Mahomet, though a conqueror, and an impostor, was not cruel; his anger was directed rather against the gods of his country, than its inhabitants. He destroyed the whole of the idols, but executed no more than three men and two women belonging to the party of his enemies. The chiefs of the Koreish prostrated themselves before him, and earnestly demanded mercy at his hands. "What mercy can you expect from the man whom you have wronged?" exclaimed Mahomet, in reply to their supplication. "We confide in the generosity of our kinsman." "You shall not confide in vain," was the politic, perhaps generous, reply of the impostor. "Be gone; you are safe: you are free." They were thenceforth left unmolested, and places of honour and trust were still confided to their care*.

We have now reached the period at which the religion of Mahomet may be considered to have been permanently settled. The conquest of Mecca and of the Koreish was the signal for the submission of the rest of Arabia†. The events of the prophet's after life cease, therefore, to possess an interest for an European reader. They were, for the

* Gag. Vie. de Mah. vol. i. p. 374.
† Sale, Fre. Disc. s. 2, p. 68.

* Mod. Univ. Hist. b. 1, c. 1, p. 171.
† Idem, b. 1, c. 1, p. 191.

most part, merely expeditions undertaken for the purpose of reducing the petty tribes who still resisted his authority; and were all of them eventually successful. The influence and religion of Mahomet continued rapidly to extend: his difficulties were over; and the hour of his prosperity has nothing to instruct or to amuse the general reader. Between the taking of Mecca and the period of his death, not more than three years elapsed. In that short period he had destroyed the idols of Arabia; had extended his conquests to the borders of the Greek and Persian empires; had rendered his name formidable to those once mighty kingdoms; had tried his arms against the disciplined troops of the former, and defeated them in a desperate encounter at Muta. His throne was now firmly established, and an impetus given to the Arabian nations, that in a few years induced them to invade, and enabled them to subdue, a great portion of the globe. India, Persia, the Greek empire, the whole of Asia Minor, Egypt, Barbary, and Spain, were reduced by their victorious arms. And although Mahomet did not live to see such mighty conquests, he laid the first foundations of this wide-spreading dominion, and established over the whole of Arabia, and some parts of Syria, the religion he had pursued.

One year before the taking of Mecca, Mahomet had been poisoned by a Jewish female at Chaibar. From the effects of this poison he is supposed never afterwards to have recovered. Day by day he visibly declined, and at the end of four years after that event, and in the sixty-third year* of his age, it was evident that his life was hastening to a close. Some time previous, he was conscious of the approach of death, and met it with firmness and composure. Till within three days of his end, he regularly performed the service of his church, and preached to his people. "If there be any man," said the prophet from the pulpit, "whom I have unjustly scourged, I submit my own back to the lash of retaliation. Have I aspersed the reputation of any Mussulman? let him proclaim my faults in the face of the congregation. Has any one been despoiled of his goods? the little which I possess shall compensate the interest and principal of the debt." "Yes," replied a voice from the crowd, "I am entitled

to three dramchs of silver.' Mahomet heard the complaint, satisfied the demand, and thanked his creditor that he had accused him in this world rather than at the day of judgment.*" He enfranchised his slaves, and quietly awaited the approach of death. The violence of his fever, however, rendered him delirious, and during one of his paroxysms he demanded pen and ink, to compose or dictate a divine book. Omar, who was watching his dying moments, refused his request, lest the expiring prophet might dictate anything that should supersede the Koran. The traditions of his wives and companions relate that at the hour of his death he maintained the same character he had borne through life. He declared that Gabriel visited him, and respectfully asked permission to separate his soul from his body. The prophet granted his request, and the agonies of death came upon him. The blooming Ayesha, the best beloved of his wives, hung tenderly over her expiring husband; her knee sustained his drooping head as he lay stretched upon the floor; she watched with trembling anxiety his changing countenance, and heard the last broken sounds of his voice. Recovering from a swoon, into which the agony of his pains had thrown him, with a calm and steady gaze, he raised his eyes to heaven, but with faltering accents exclaimed,—"O! God, pardon my sins. Yes, I come among my fellow labourers on high." He then sprinkled his face with water, and quietly expired. At Medina, in the very chamber where he breathed his last, the piety of his votaries deposited his remains, and erected over them a simple and unadorned monument†. Medina, on account of the precious relics of the prophet, has become sacred in the eyes of all Moslem nations, and holds the second place among the cities of the earth. And the pious pilgrim on his way to Mecca increases the worth of his pilgrimage if he turn aside to visit also the city which contains the ashes of Mahomet.

SECT. IV.—With the succeeding revolutions of the Arabian empire our

* Gibbon, c. 50, p. 144.

† Concerning the absurd stories of the hanging coffin of Mahomet we shall say nothing, our space being too precious to be spent in such idle discussions. To those who are desirous of information on this point, we recommend the article MAHOMET, in Bayle, note dd. Niebuhr says, "the tomb is of plain mason work, in the form of a chest; and this is all the monument." Travels, c. 68, p. 92. Pink. Coll.

present purpose has no connexion. Our task is finished at the death of Mahomet, and all that now remains for us to perform is to estimate his character.

Mahomet found his countrymen living under certain institutions, following a certain code of morals and of law, and professing a certain rude religion. These institutions, through his instrumentality, all underwent a material alteration. Did he by this alteration improve the situation of his countrymen? and if so, to what extent did he improve it? These are the questions by which his worth must be judged; and they can be fully and fairly answered, only when we have carefully examined the institutions he framed as they severally regard the government, the laws, the religion, the morals and the manners of his countrymen. By summing up his excellencies and defects in each and all of these departments, we shall alone be able to estimate the *public* character of the man. His *private* character must be judged by his adherence to those rules of morality which his people adopted, and which his own judgment afterwards approved.

The government of his country Mahomet left as faulty as he found it. Previous to his mission the people had been subject to the sway of powerful nobles, whose dominion was uncontrolled either by established forms of government, or by established laws. The petty despotisms of the nobles were by Mahomet united under one head; but the rude mind of the barbarian was unable to conceive any other means of governing his distant provinces than to delegate his own despotic power to the governors he appointed to rule over them. The separate provinces, therefore, though they now owed obedience to one and the same distant monarch, were, nevertheless, ruled as before, each by its own petty despot. Supported by the authority of a mighty empire, and influenced in his private manners, in his expenditure and in his public conduct, by the example of his sublime original, the petty tyrant lost no particle of his mischievousness; oppression, as before, was the lot of the unfortunate multitude*.

That Mahomet established no other

form of administration than the usual despotism of oriental nations, even for the central government, need not excite our astonishment. For although superior to his countrymen in the qualifications requisite to lead and impose upon a barbarous people, he was possessed of little really useful knowledge. He had just arrived at that degree of knowledge which renders a man sensible of the necessity of some government; of some person to lead the armies of his nation in war, and to adjudge their differences in peace; beyond this he had made no advance. He knew not that the same circumstances which render a governor necessary, create also a necessity that some securities should exist against the abuse of power by the governor himself. If he was thus ignorant, his merits as a legislator were of the lowest description; if he were not, he was culpably indifferent.

The glare and pomp of constant victory, and wide-spreading conquests, are too often able to attract the admiration, and to disturb the judgment of the historian. Whenever a nation has been induced to unite its energies, and to direct them to the annoyance and destruction of its neighbours, it is usually thought that its government has of necessity been improved, and its people rendered happy and prosperous. To him, however, who will coolly investigate the causes of a nation's prosperity, war, in every shape, must appear the most tremendous of human miseries. The happiness of a people depends upon means of enjoyment, which, in by far the greater number of cases, are the produce of industry: industry employed in deriving from the soil the productions of nature, and fashioning them for use according to our several wants and desires. But the devastations of war disturb the peaceful vocations of the industrious artisan and agriculturist; its expenses swallow up the produce of their labour; that which ought to be employed in reproduction is thrown away in the maintenance of armies; and while the glory of the nation is increased, while the wreath of victory is, by vulgar admiration, placed upon the brows of its warriors, the people are reduced to starving and the triumphs of the successful general are purchased by the misery of millions. Those who have admired the mighty conquests of the Arab prophet have seldom been at the

* A more abominable race of governors never existed than the lieutenants of the Caliphs, who succeeded Mahomet. A history of their cruelties may be found in Ockley's Hist. of the Saracens, vol. ii. reign of Moawiyah-I.

pains to learn whether the *people* of Arabia were made happy by those conquests, or whether the nations subdued by his victorious arms had *their* welfare increased by having their fields overrun, and their towns destroyed by his ferocious followers. What is usually termed the increased national greatness of Arabia, that is, its increased power of subduing and destroying its neighbours, entitles Mahomet to no respect.

KORAN.

The Koran must be considered as the code of laws, religion, and morality, which Mahomet, in his character of legislator, promulgated to the people of Arabia. It contains almost every thing he left behind him in the shape of precept and instruction; and such as it is, was supposed by him, and is still thought by his followers, to comprise all the information that is requisite for the happiness of mankind. "It must be remarked, that, as the Alcoran is among the Mussulmans the only book of law, it consequently comprehends all their civil, and, to speak according to our own phraseology, all their canon law. And as it comprehends also the truths which they ought to believe, it follows that a doctor in the law is, according to them, a doctor in theology, and that the two professions of law and theology are amongst them inseparable.

"This law, upon which is founded all the theology and all the jurisprudence of the Mussulmans, is then comprised in the Koran, in the same manner that the law of the Jews is comprised in the Five Books of Moses *."

When Mahomet first laid claim to divine inspiration, he cunningly contrived to obtain in reality the power of making laws. In name, indeed, he was but the instrument by which the divine decrees were made known to the world. He informed his followers, and they believed him, that in the seventh heaven there had been from everlasting a large table, called the *preserved table*, on which were recorded the commands of the Almighty. From this table a copy had been taken, and conveyed by the angel Gabriel to the lowest heaven, on the night of the *divine decree*. From this copy, as Mahomet's necessities required, fragments were conveyed by inspiration to the prophet, and by him were announced to his followers. As

might have been expected, they were connected intimately with Mahomet's immediate interests; were composed for the momentary service; they assumed no regular form; and possessed few of the requisites to a complete and accurate body of laws. These fragments, as we have before stated, were, by the succeeding caliphs, collected into one volume, in the form of the present Koran.

The whole is divided into one hundred and fourteen portions, which may properly be termed *chapters*; and these again into smaller divisions, which may with equal propriety be called *verses*.

There is not the slightest approximation to any thing like design or method in either the larger or the smaller divisions. Neither the time at which they were revealed, nor the matter they contain, was the rule by which they were arranged; they were, in fact, thrown together without order or meaning. The divisions of the chapters also are equally faulty. One verse has seldom any connexion with the preceding; and the same subject is in no case continued for a dozen verses in succession: each one appears an isolated precept or exclamation; the tendency of which it is difficult, the pertinence impossible, to discover.

The first nine titles will convey to the reader a fair conception of the skill in arrangement and nomenclature manifested by the prophet's followers.

1. The Preface. 2. The Cow. 3. The Family of Iram. 4. Women. 5. Table. 6. Cattle. 7. Al Araf. 8. The Spoils. 9. The Declaration of Immunity.

The language of the book, if we may judge by the translations we possess, is by no means superior to its arrangement. The Arabians themselves declare it to be beyond competition. Nothing inferior to the divinity, say they, could have composed such magnificent sentences. Mahomet himself was so convinced of the beauty of his style, that he boldly advanced its perfection as the most striking proof of the authenticity of his mission. "The Koranists, or persons attached to the Koran, find nothing eloquent or excellent out of the Book. They assert that Lebid, one of the most famous poets of the Arabs, became a convert upon the reading of three or four verses of the second chapter, which he believed inimitable in their style. These Koranists are great enemies to the philosophers, par-

* D'Herbelot, Bib. Orient. mot. Fm.

ticularly to metaphysicians and schoolmen. They condemn both Averroës and Avicenna, the two greatest ornaments of Moslemism; and also Plato and Aristotle*." We suspect, however, that the Arabians are as ignorant of style as of method. Rhapsody is in no place less desirable than in a body of laws. The expression of a law should be precise, clear, complete, and brief. It would be difficult to discover any of these qualities in any portion of the Koran. To an Arabian ear the language may probably possess beauties that none but an Arabian can feel. But these delicate graces of style, though, in poetry, of infinite importance, are of secondary, perhaps, no importance whatever in a book of laws. It is more than probable, also, that even these graces are exaggerated, and that fashion makes an Arabian pretend to feel beauties which in reality he never discovered.

RELIGION.

One thing it will be necessary to premise respecting the standard to which we intend to refer the religion of the impostor. The religion of Mahomet, unfortunately for the largest portion of the human race, was not the TRUE RELIGION. As a means of salvation, therefore, it is worse than useless: we know too well that it cannot save men hereafter, we need only inquire if it can possibly make them happier in this life.

On examining the precepts of the Koran, we are astonished how little was either added to or altered by Mahomet in the ancient belief and institutions of the Arabs; and, moreover, we cannot but feel sensible that these alterations and additions were scarcely, if at all, for the better. The religion of Mahomet, as contra-distinguished from that of his countrymen, was marked by three peculiarities: the first was, that he established the worship of a single God; the next, that he set himself up for his inspired minister; the third, that he commanded his followers to propagate their belief by the sword. The first of these, viewed in conjunction with his other doctrines, was little more than a nominal improvement, the two last evidently mischievous.

The wild Indian, who, in the sun, fancies he beholds the sole governor of the universe, and to him alone pays his

adoration, believes evidently in a single god; but no one can say that he believes in the only true God. His god is a phantasy, and may be a terrible phantasy. The ignorant savage may fancy him a being endowed, not with mild and merciful, but malignant and revengeful qualities. If to this savage there should come some eloquent but half-instructed philanthropist, who should teach him that, instead of one such terrible Divinity, there were two, whose pleasure was creating happiness not misery; who, in their beneficent solicitude, fashioned this wonderful universe, in order to enjoy the spectacle of a world of happy creatures; can we believe that the religion of the savage would not be improved, though now he should offer up his orisons to two divinities instead of one? Mahomet, in circumscribing the number of the Arabian gods, altered not their character. He left them as he found them—easily irritated, with difficulty appeased; revengeful and capricious; to be propitiated rather by ceremonies than by virtuous actions; more interested in the proper cut of a votary's nails, or in the regular prostrations of his body, than in the happiness he enjoyed himself, or in the conduct he pursued towards others. There were seven things in which the faithful Mussulman was to believe; four things which he was to perform, only one of which was connected with the temporal welfare of himself or his fellows.

1. He was to believe in Mahomet's God; 2. in Mahomet as his prophet; 3. in his angels; 4. in his scriptures; 5. in his prophets; 6. in the resurrection and day of judgment; 7. in God's absolute decree and predetermination of good and evil.

His imposed performances were—1. Prayer, under which were comprehended the washings and purifications; 2. Alms; 3. Fastings; and, 4. Pilgrimages to Mecca*.

"There is no circumstance connected with a religious system more worthy of attention than its morality—than the ideas which it inculcates respecting merit and demerit; purity and impurity, innocence and guilt. If those qualities which render a man amiable, respectable, and useful as a human being; if wisdom, beneficence, self-command, are celebrated as the

* D'Herbelot, mot ALKORAN, p. 81.

* Sale, Pre, Disc, sec. 4. p. 93.

chief recommendations to the favour of the Almighty; if the production of happiness is steadily and consistently represented as the most acceptable worship of the Creator, no other proof is requisite, that they who framed, and they who understand this religion, have arrived at high and refined notions of an all-perfect Being*." Taking this observation for our standard, it requires little penetration to discover that the conceptions of Mahomet respecting the requisites for a perfect religion, were those of an ignorant barbarian. Throughout the Koran, the greatest possible stress is laid upon the necessity of a belief in Mahomet's pretended mission; all other virtues are useless if this single point of the prophet's divine appointment be not steadily fixed in the mind, and constantly present to the imagination of the aspirant to everlasting life. But while belief in the pretended prophet is thus exalted to the highest point the imagination can conceive, the really useful qualities are placed low down in the scale of importance. The consequence is, that the votary is careless of his conduct so long as he is fortunate enough to preserve a belief of the proper description. The faithful, that is the believing, Mussulman is in no doubt concerning his reception into the heavenly regions, if, while in the minor consideration of virtuous conduct, he might be wanting, he should have strictly followed the ceremonious observances of his religion, and firmly believed in the impostures of his prophet. This assertion is amply borne out by experience. A Mussulman proverb condemns every man as untrustworthy who has performed the pilgrimage to Mecca.

That general precepts may be found in the Koran, which, in emphatic language, command men to be virtuous, cannot be denied; but it must be remembered that no legislator ever deliberately, in words, recommended vice. A general command to be virtuous is of little service, and should by no means receive our approbation till we have learned what, in the legislator's opinion, is deemed to be virtuous. The great object of every legislator is to enforce the observance of what he commands; that observance *he* would consider virtue, though he should command his subjects to slay all who wore clothes or

professed opinions differing from their own. These vague and general precepts, then, may be considered as neither beneficial nor otherwise: no matter how emphatic, how beautiful may be the language in which they are conveyed. The circumstance really important is the *conduct* which the legislator has enjoined, and to which he has attached the character of virtue. We must learn what acts the legislator considers most acceptable to the Divinity; what acts he recommends to the approbation of mankind. We again quote Mr. Mill.

"If we search a little further, we shall discover, that nations do not differ so much from one another in regard to a knowledge of morality and its obligations (the rules of morality having been taught among nations in a manner remarkably similar), as in the various degrees of steadiness, or the contrary, with which they assign the preference to moral above other acts. Among rude nations it has almost always been found that religion has served to degrade morality by advancing to the place of greatest honour those external performances, or those mental exercises, which more immediately regard the Deity; and with which, of course, he was supposed to be more peculiarly delighted. On no occasion, indeed, has religion obliterated the impressions of morality, of which the rules are the fundamental laws of human society. It has everywhere met with the highest applause, and no where has it been celebrated in more pompous strains than in places where the most contemptible, or the most abominable rites have most effectually been allowed to usurp its honours. It is not so much, therefore, by the mere words in which morality is mentioned, that we are to judge of the mental perfection of different nations, as by the place which it clearly holds in the established scale of meritorious acts*."

From the list of actions we have given, as necessary to a perfect Mussulman, it is obvious that Mahomet established a scale of meritorious acts, in which idle, ridiculous, useless, and sometimes mischievous observances occupy the chief place, while all really useful actions are passed over as unimportant. We need no further proof of the low character both of his religion and his morality.

* Mill's Hist. of British India, b. 2. c. 6. p. 263.

* Hist. of Brit. India, b. ii., c. 6, pp. 273, 279.

One mischievous portion of his religion must not be forgotten, viz., the command to propagate it by force*. If there be one means more effectual than another of keeping men in perpetual ignorance, and consequent misery, it is to make truth and justice always the portion of the strongest. If, to the settlement of contending opinions, force alone be necessary, it is evident that the correctness of either is a matter of no moment. Consequently to discover whether an opinion be founded in truth will never be the aim of the disputant. The measurement of his own and his adversary's powers, is the circumstance that will concern him; he will be careless concerning the propriety of his belief, so long as his arm is the stronger; and hatred the most violent will arise in his mind against all who do not agree with him, inasmuch as non-accordance with his opinion implies a contempt of his power. He will learn to attach to words and symbols immeasurable importance, for they will be all that he can understand. His mind will be shut against conviction; and turned with implacable animosity against every one who hoists not his standard, or who is not attached to his formula. Every bad passion will be generated in his mind; irascible, impatient of contradiction, and revengeful, he will be ignorant himself, and determined to keep others so; will resist every improvement, as an attack upon his creed, and invariably weigh every man's worth, not by his actions, but by the words of his belief.

The Arabians, before the appearance of Mahomet, were a tolerant people. They forced none to believe as they believed; but lived in harmony and friendship with persons of every persuasion. In the retired cities of Arabia, the Christian, the Jew, and the Pagan, all found a refuge; and not till the persecuting spirit of Islam was established, were they disturbed in their hitherto peaceful abode. Arabia, however, became through Mahomet divided against itself; and to the many already existing causes of dispute were added the direful animosities of religion.

LAW.

Nothing but the prejudices of education could make a reasonable man look upon the Koran as a book of jurisprudence capable of conveying instruction to any but a nation of savages. Deficient in form; deficient in clearness; incomplete, it possesses not one single quality requisite to a body of law. In the midst of a vast farrago of nonsense, hidden amidst unmeaning explanations, and dark mysterious prophecies, there sometimes appears a command respecting the distribution of property, or the punishment of offenders. But no explanations are given—no regular description of the means by which property may be acquired; no enumeration of those by which the rights to it may be lost, is even attempted. The rights of individuals, in their several capacities, to the services of others, are nowhere distinctly mentioned; nor is there any the most distant approximation to a systematic view of the several obligations to which it was intended to subject the members of the community. As occasion prompted, or when a dispute happened, Mahomet was accustomed to issue a revelation, which answered for the immediate purpose. But the original unwritten customs of the Arabs remained in full force, receiving little modification from the decrees of the prophet. One advantage, and one alone, he may be supposed to have originated,—his were *written* decrees; it was a commencement for a body of laws, though a rude and imperfect one. This benefit, however, is more than counterbalanced by the evil of their being irrevocable. What the ignorant barbarian instituted, succeeding generations have been obliged to retain. No matter how absurd, how injurious the decree, religion commands the faithful Moslem to abide by it. The Almighty was its author, and he is all-wise; and, moreover, is as wise at one time as another. How, then, shall we pretend to amend the divine ordination, or fancy that he himself need amend it? The conclusion is irresistible, provided the premises be allowed. The nations who have assumed the Moslem faith have consequently remained, and, while professing it, will remain, barbarians.

Into the particular laws which Mahomet established we do not intend to examine. That many of them were useful cannot be denied; but to esta-

* The following saying of Ali raises a vivid conception of the success of Mahomet's preaching on this head: "HOLY WARS are the pillars of religion, and the highways of the happy; and to them who are engaged in them, the gates of heaven shall be open."—(Ockley's Trans. of Ali's Sayings, cxxxi.)

blish them argued no great wisdom on his part, whilst the loose and uncertain manner in which they were promulgated shows that he himself attached little importance to their establishment. Succeeding ages have, in some degree, improved upon this rude system of law; but the improvement has been effected by the increasing civilization of the people, which has advanced in spite, not in consequence, of the Koran. As the opinions of the people have become more enlightened, better interpretations have been put upon the sacred volume; it has thus, in appearance, kept pace with the improvement of the people. From the obscure style in which the holy book is written, it is liable to several interpretations; in a barbarous age, a barbarous interpretation was the one chosen; but when succeeding times revolted at these abominable precepts, the interested clergy declared that their predecessors had been mistaken; that the true spirit of the Islam religion and law had been misunderstood. It has nevertheless constantly, and for the most part successfully, withstood all improvement. The amelioration in its tenets has been rare; and has never taken place till the bigoted priesthood foresaw that further opposition would be dangerous.

Even from this hasty and imperfect review of Mahomet's actions as a legislator, the reader will be able to form a tolerably correct estimate of his public character. That he was a barbarian, unskilled in the sciences of which he professed himself the inspired teacher, and deserving a very small portion of applause, as having advanced the civilization of his people beyond the point at which he found it, is abundantly manifest: that he was superior to the age in which he lived may be believed from the success of his imposture. Among a people so rude as the Arabs, however, a very slight superiority was sufficient to render him thus successful. His talents contributed to his own fortune, not to his nation's improvement; he was skilled in whatever was necessary for his personal aggrandisement; in whatever was useful to others he was miserably deficient.

Of his private character we need say little. He has usually been branded with opprobrium for not conforming to established rules of morality, of which unhappily he was totally ignorant. For

this, assuredly, he deserved no reprehension. That, however, for which he does deserve the severest reprehension, is his departure from the morality which he approved and adopted. The moral code of a people must be judged by its approximation to that perfect standard which provides completely for the happiness of mankind; but the moral character of a particular man must be judged by the steadiness of his adherence to that code which he considers the correct one.

His unbounded gratification of his amorous propensities has been urged as a proof of his immorality. In this, however, he followed the manners of his countrymen: among them it was no crime to maintain as many female slaves and wives as their wealth permitted, and their desires prompted. Mahomet, in acting up to the measure both of one and the other, offended against no rule of morality with which he was acquainted.

Mahomet was a murderer and an impostor. He prompted and approved of the assassination of Sophyân and Caab. It must, however, be recollected that, among the barbarous Arabians, the same carefulness of life was not inculcated as among a civilized people; and the prophet, in getting rid of his enemies, did not outrage the feelings of his friends or his enemies. We cannot, indeed, but detest the morality of a people who tolerated such conduct, and also hold in exceedingly low estimation the civilization of him, who, pretending to improve that morality, upheld and practised the very worst portion of its tenets.

That Mahomet was an impostor cannot be doubted. In the early part of his public life he might have fancied himself somewhat peculiarly gifted; but that his self-delusion should have continued to the later years of his life, to such an extent as to acquit him of fraud, is utterly impossible. His story of the heavenly journey was a fiction, which nothing but absolute madness could have permitted him to believe. Moreover, the constant visits of the angel Gabriel, precisely at the critical moment when his aid was needed, are sufficient evidence of a perfect absence of all self-delusion. But, being an impostor, did he employ the power he acquired to the advantage of his people or to his own aggrandisement? He exalted himself

to a throne, and, possibly, when his own interests were not concerned, did, as far as his abilities enabled him, further the welfare of his people. He was not cruel, nor sanguinary: his conquests were generally speaking marked by no butchery*; nor was his government a tyrannical one. In his private life he was mild and gentle; affectionate to

* Like other conquerors, Mahomet was occasionally cruel: he was, nevertheless, as compared with his age and nation, a merciful conqueror.—See, for specimens of his cruelties, *Mod. Univ. Hist.* b. 1. c. 1. p. 131.

his friends and his wives; and just and honourable in his dealings. As a private man, among his own people, he was esteemed virtuous and beneficent. For the most part he wanted rather the knowledge than the will to be an estimable citizen, as well as a beneficent legislator. His vices were the vices of his age; and, as he was little superior in knowledge to the men by whom he was surrounded, it is not wonderful that he did not greatly surpass them in virtue.

NOTE.

It may be of service to point out to the reader the authorities on this portion of history. In reading to acquire knowledge respecting the fortunes of mankind during any particular period, two objects should be kept in view:—1st, to discover what events occurred; 2d, to learn the manners and institutions of the people whose history we are investigating. A detail of events without a knowledge of the institutions and customs which must materially have influenced those events, is utterly barren of instruction. Under this twofold division we shall therefore class the authors which we are about to recommend. It must be remembered that only such portions of history are here in contemplation, as are requisite to elucidate the life of Mahomet.

I. Works giving the History of Events.

1. The first we should recommend is the first chapter of the first book of the *Modern Universal History*, which as a repository of facts is valuable. The Arabic scholar could not do better than trace out the Arabian authors there quoted.

2. Chapters 50 and 51 of *Gibbon's Decline and Fall*. These contain an easy, graceful narrative of the prophet's life and the comments of his followers, a superficial account of his institutions, and a host of authorities to which the industrious historical reader would do well to refer. In *Gibbon*, moreover, will be found a clear description of the situation of the Greek empire, and all we know on the subject of Persia during that period.

3. *Gagnier's Life of Mahomet* contains the fullest account of his fortunes that any writer has left us. *Gagnier* has written precisely as a Mussulman might have written. He has related all the wonderful stories that the Arabs report of their prophet; and coolly describes every act of atrocity without observation or repugnance.

4. *Prideaux* will add little to our knowledge, but his book is not long.

5. *Ockley's History of the Saracens*. A most remarkable and original work, giving a lively picture of the times; containing some good, and many extravagant observations: it well deserves perusal.

6. *Pocock's* translations will be read by a hardy and determined investigator, but by no other.

These sources will be sufficient; and if more be required, the reader will be able, from the light they afford, to discover the remainder for himself.

II. Works respecting the Manners, Institutions, &c.

1. *Sale's Koran*, and *Preliminary Discourse*. It would be difficult to find a more excellent authority. He has few prejudices, and relates a great deal. The reader is presented with a copious and candid detail, and is generally left to form his own judgment. Like too many other oriental scholars, however, *Sale* was much inclined to overrate the worth of that literature of which he enjoyed a sort of monopoly. His facts may be relied on.

2. *Ancient Universal History*, vol. xviii. b. iv. c. 21, written by *Sale*, and containing an excellent account of the laws and customs of the Arabs.

3. *Niebuhr's Travels*. The best of oriental travellers: he relates honestly, and judges like a philosopher.

4. *D'Herbelot. Bibliot. Orientale*. Of this work, *Gibbon* says, "the *Oriental Library* of a Frenchman would instruct the most learned Mufti of the east;" and again, "for the character of the respectable author consult his friend *Thevenot* (*Voyages du Levant*, part i. c. 1.) His work is an agreeable miscellany, which must gratify every taste; but I can never digest the alphabetical order, and I find him more satisfactory in the Persian than the Arabic history." (*Decline and Fall*, c. 51.)

5. Not connected immediately with the present portion of history, but an admirable guide nevertheless in our investigations, is *Mill's British India*, b. 2. The author of the present work cannot omit this opportunity to acknowledge the great debt he owes to the profound historian of British India.

6. The French writers of the eighteenth century, more particularly of the *Encyclopédie*, are unsafe guides. Their conclusions are generally well drawn from false data. So with *Voltaire*.

7. Of the various modern travels into Arabia it is not necessary to speak specifically. They are all amusing, and many of them instructive. Their facts generally can be relied on.

CARDINAL WOLSEY.

CHAPTER FIRST.

Birth and Parentage of Wolsey.—The Nature of his Early Pursuits.—The Cause of his First Preferment.—His First Transaction in State Affairs.—His Increasing Honours.—Advantages derived by Wolsey from the Events of the War.

THOMAS WOLSEY was born at Ipswich, in the month of August, and in the year 1471. His father is generally supposed to have been a butcher, but there is no positive authority for the statement. Great unnecessary importance has been attached to this point by those authors who have written upon the character and actions of this celebrated man. It is sufficient to know that Wolsey had the merit of rising from an obscure station; that he was the son of a poor, but honest man; that his parents possessed the means of educating him respectably; but acquired not, happily for him, the wealth to support him idly;* yet these humble individuals lived perhaps far more usefully and happily in their obscurity, because more respectable, than their unprincipled illustrious offspring.

It was not until two centuries after the birth of Wolsey that any degree of curiosity concerning his origin was manifested by the public. In 1761, it was ascertained by one of his biographers, that the father of Wolsey possessed some property in land, in two parishes of Ipswich; that he bequeathed to his son, Thomas, ten

* In the opinion of Wood, (*Athenæ Oxoniensis*, vol. 2, p. 734,) the assertions respecting the vocation of Wolsey's father being that of a butcher, originated with William Roy, the author of a satire upon Wolsey, entitled "A Dialogue between two Priests' Servants, Watkins and Jeffrey," beginning

"Rede me, and be not wrothe,
For I say no thyng but trothe."

The writers contemporary with Wolsey appear to have known little of his origin. Bishop Godwin, in his *Lives of the English Bishops*, (p. 618,) speaks of Wolsey "as the son of a poor man, or, (as I have often heard,) a butcher." Skelton, poet-laureate in the time of Henry the Eighth, satirizes Wolsey under the appellation of the "butcher's dog." Hall mentions that the populace abused him as the "butcher's son," a term also applied contemptuously to him by Luther, in his *Colloquia*. Cavendish describes him as an "honest poor man's son."—See Cavendish, *edited by*

marks to sing a mass for his soul, if he entered into holy orders within a year after his father's death; that he left his lands at the disposal of his wife, Joan; and the rest of his worldly property to his son, his wife, and another person, "to dispose as they should think best to please Almighty God, and to profit his soul."*

At a very early age Wolsey was sent to Magdalen College, Oxford, where he acquired the rare distinction of being a bachelor of arts when he had only reached his fifteenth year. This early honour was remembered by him with the pride and satisfaction with which prosperous men often revert to the first step in their ascent to fame. In his more splendid and wretched days, Wolsey related the circumstance to George Cavendish, one of his gentlemen ushers, who has repeated it in the valuable *Memoirs of Wolsey*, which he subsequently composed. "He told me, in his own person," says Cavendish, "that he was called the boy bachelor at fifteen years of age; which was a rare thing, and seldom seen." The youthful acquirements of Wolsey, how much soever they may have been admired by his contemporaries, were not of a nature to be highly valued in the present day. The pursuits of a clerical student, in the fifteenth century, were neither adapted to qualify him for offices of state, to which the clergy were, at that time, oftentimes promoted; nor to endow him with the power of reasoning accurately. The Metaphysics, and Natural Philosophy of Aristotle, formerly prohibited, and burned at Paris, by a decree of the Council of Sens, in 1210, had been again received into favour by the schools, chiefly through the exertions of Thomas Aquinas, a theologian of the fourteenth century, employed with other learned men to translate the works of Aristotle from the Greek and Arabic languages, into Latin.† In the early part of Wolsey's life the reputation of Aquinas

* See the will of Robert Wolsey, in Fiddes's *Life of Wolsey*. Collections.

† Mosheim's *Ecclesiastical History*, vol. iii. p. 25.

was at its height, and Wolsey imbibed from education a partiality for the doctrines, and an admiration for the talents, of that great man, by which his subsequent opinions on theological subjects were strongly tinctured. Seconded by the zeal and talents of Aquinas, scholastic learning had gained rapidly in public estimation; while the Bibliocists, those who resorted to the writings of the ancient fathers, or to Holy Writ itself, as the sources of divine truths, had declined both in numbers and importance. Hence consequences the most injurious to religion and philosophy ensued. The education of youth was directed to attainments of a superficial character; a fluency of argument, calculated to mislead, but not to convince; a readiness in the use of scholastic terms, and in the practice of unintelligible distinctions, and a skill in imparting to disputation the air of method, and the semblance of abstruse reflection,—constituted, long after the death of Aquinas, the chief accomplishments of young theologians.

Such being the nature of those studies to which the attention of Wolsey was directed, it is not surprising that he should have contracted strong prejudices, and imbibed erroneous opinions, which even the powers of his vigorous and comprehensive mind were unable to correct. In the endeavour to understand and to retain the subtleties and refined distinctions of his great model, Wolsey neglected both the politer branches of learning, and the important acquisition of real religious knowledge, which can be gained from Scripture alone. In those days, a critical knowledge of the Scriptures was, indeed, rarely to be found even in the most celebrated collegiate teachers, who were usually ignorant of the original languages.* Thus, as the historian of Henry the Eighth, Lord Herbert, expresses it, "the learning of Wolsey, which was far from being exact, consisted chiefly in the subtleties of the Thomists, in which he, and King Henry the Eighth, did oftener weary than satisfy one another." To the same cause may be attributed the absence of those higher principles of action, which, had they regulated the conduct of Wolsey, might have

rendered his splendid career a source of incalculable benefit to his country.

To pass his days in studious retirement was not, however, the lot of Wolsey, who had the advantage, for such it often proves, of resting entirely upon his own exertions. It must have been an acceptable turn of good fortune to him, after having, by his proficiency in logic and philosophy become a Fellow of Magdalen College, to have been appointed master of the school, in which students, intended to enter that College, were instructed previous to their admission; a practice common at both the Universities,—each College having, in general, some particular school appropriated to it.* Luckily for Wolsey, there were, among his pupils, three sons of Grey, Marquis of Dorset, the collateral ancestor of Lady Jane Grey. To these young noblemen Wolsey proved an able and assiduous instructor; and it is a curious reflection, that he, who in after times became the governor of princes, possessed, in this early period of his life, the forbearance and diligence which render the humble, and often thankless, offices of a teacher effectual. Perhaps the opportunity thus afforded to Wolsey of viewing, in the ingenuous soul of youth, the secret springs of action and the varieties of undisguised passion, may have been the first source of that intimate knowledge of character which was ascribed subsequently to necromancy, by his enemies, from the influence which he gained over the king. Whatever may have been the final benefits of the task thus appropriated to Wolsey, the immediate advantages were both encouraging to him, and creditable.

It happened that he was invited, with his pupils, to pass under the roof of their father the pleasant and "honourable feast of Christmas,"† in which our forefathers, even more than ourselves, were wont to delight. During this vacation, the marquis had ample opportunities of observing the progress of his sons, and was so highly gratified by their proficiency, that he determined to present their tutor with the living of Lymington in Hampshire, a benefice in the gift of the Dorset family, and in the diocese of Bath and Wells. This presentation took place at the departure of Wolsey with his pupils from their paternal abode; and it was the more acceptable

* When Luther, many years after the period of Wolsey's youth, challenged the University of Paris to dispute with him upon a Scripture foundation, not a single person could be met with, qualified to argue upon a system which had become nearly obsolete.—*Mosheim*, vol. iii, p. 298.

† See *Keshewick's Monasticism*.

to Wolsey, on account of some pecuniary embarrassments, of no very creditable nature, in which, according to tradition, he was involved. A statement currently reported either during the life, or shortly after the death of Wolsey, affirmed him to have employed, without authority, various sums taken from the treasury of Magdalen College, of which he was bursar, in the erection of the great tower which was completed at that College during his continuance in office: and he is even said to have used violent means to possess himself of the money necessary for that purpose. The details of this transaction have not, however, reached us, and it seems doubtful if there be any foundation at all for reports so injurious to his reputation. It must, however, be observed, that always painful and often unwise as it is, to draw conclusions unfavourable to the motives and actions of our fellow men, there is no reason to infer from the subsequent conduct of Wolsey that his principles of integrity, in relation to pecuniary affairs, were very exact; or that he would not have sacrificed to ambition, or to any object which he had in view, that sense of honour, without which the greatest qualities can neither redeem the character from meanness, nor save the reputation from dishonour.

Wolsey obtained his first church preferment in Oct. 30, 1500, when he had attained his twenty-ninth year.* His ordinary deportment partook, in too great a degree, as far as morality was concerned, of the licentiousness in which the clergy of those times, perhaps more than any other class of men, indulged. It is uncertain for what excess Wolsey at this time incurred a chastisement, which he had neither the wisdom to forget, nor the generosity to forgive. The affair, according to tradition, originated thus: Sir Amias Pawlet, a knight and justice of the peace, residing in the neighbourhood, discovered the Rector of Lymington in a state of drunkenness at a fair, and deemed it essential to punish the offender by placing him in the stocks; and the aspiring Wolsey was obliged to endure that ignominious mode of confinement, which the compassion or refinement of our present notions has almost abolished in our villages. A curious specimen of the manners of the times, where a beneficed clergyman could

thus be held up to popular derision, is afforded by this incident, which was deeply felt, and long resented by the delinquent. Many years afterwards, when the Chancellor of England had not the liberality to pardon the insult offered to the Rector of Lymington, he sent for the country magistrate, and, after a severe reproof, commanded him to wait within the precincts of the court, until, at the pleasure of the council, he should be allowed to depart. Sir Amias knew how necessary it was in that age of despotism to bend to circumstances; and contrived to appease the Chancellor, in the course of five or six years, by embellishing the exterior of his own house, situate at the gate of the Middle Temple, with the badges and cognizances of Wolsey, and with a Cardinal's hat and arms.*

Upon the death of the Marquis of Dorset, in 1501, the obscurity of a country parsonage, without hope of preferment, becoming intolerable to Wolsey, he determined to quit his retirement, and to make his essay upon the theatre of the great world. He was soon fortunate enough to obtain the situation of chaplain in the household of Dean, then Archbishop of Canterbury, who extended his favour towards the young churchman, more from regard for his personal qualities, than from any interest exerted in behalf of Wolsey by the few powerful friends of whom he could boast.

Upon the Archbishop's death 1502. he was again deprived of a valuable patron; but the favour of others, or even the superior strength of his own understanding, was not all he had to depend upon. At this early period of his life he possessed that courteous dignity of manner which may be improved by intercourse with polite society, but cannot be imparted by that advantage, when the mind is naturally coarse or frivolous. Combining the accomplishments described by one who has not dealt sparingly with his vices,† “*Doctus, et oratione dulcis—Corporis etiam gestu, et habitu concinnus*,”‡ Wolsey verified the description given of him by Shakespeare, that “he was fashioned to much honour from the cradle,” and displayed in his deportment every thing which inspires regard, and enforces respect. Accordingly we find that he, who was reputed a low and

* Cavendish, p. 68.

† Archbishop Parker—to whom we owe, in a great measure, the formation of our excellent Liturgy. Fiddes, Note, p. 16.

disorderly man at Lymington, acquired the favour of Sir John Nanfan, a "grave and very ancient knight," with whom he chanced to become acquainted. Sir John at this time held the important office of treasurer to the city of Calais, where Wolsey attended him in the capacity of chaplain; but it was not long before the knight, discovering the abilities and industry of his inmate, confided to him almost the entire charge of his public business. This confidence remained unimpaired; and Nanfan, upon his retiring from office on the score of old age, recommended Wolsey to Henry the Seventh in such earnest terms, that the king made him one of his chaplains. Wolsey may now be considered as in the avenue to greatness. There was, indeed, little probability of his attaining, over the mind of that wary and calculating prince, the influence which he afterwards acquired with his successor. Henry the Seventh, perhaps one of the most prudent and successful kings that ever sat upon the British throne, directed all the energies of an acute and active mind to objects of public interest. Approving of literature, he had yet neither sufficient enthusiasm to be fascinated with the wit of Wolsey, nor sufficient knowledge to appreciate his learning. He considered business as the paramount, if not the sole object of importance in life; and he expected in those around him the same assiduity and regularity of habits, of which he gave them the example. His ministers were, as might be expected, laborious and indefatigable servants of the crown, who exercised in their several departments, and required in their interiors, exactness, steadiness, and dispatch. When they observed that Wolsey, after saying mass in the closet before the king, "spent not forth the day in vain idleness, but gave his attendance upon those whom he thought to bear most rule in the council,"* they naturally gave their confidence to a man who exhibited that self-denial, and power of application, without which no votary of ambition has ever attained pre-eminence in public affairs.

The ministers who chiefly enjoyed the favour of Henry the Seventh were Fox, Bishop of Winchester, and Thomas Howard, Earl of Surrey. Fox had retained his post the longest, and most resembled his royal master in his notions of economical management, which

amounted to penuriousness: but Surrey, from his military reputation, and from his office of Lord Treasurer, might be considered the most powerful of these two distinguished subjects. By Fox, the abilities of Wolsey were discovered early, and appreciated justly; and both regard and confidence were manifested by the bishop towards his former dependant, to the latest period of his own existence. Sir Thomas Lovel, master of the king's wards, and constable of the Tower, was another valuable friend, whom Wolsey, by his merits or address contrived to secure among the privy councillors. This knight, who had the character of being both witty and wise, retained his favourable sentiments towards Wolsey until his death; and bequeathed to the object of his early preference, a golden standing cup and four hundred marks of gold, in testimony of his affection.*

Aided by these powerful friends, Wolsey soon obtained an opportunity of displaying his zeal in the service of the king. It was at this time that a treaty of marriage was contemplated between Henry the Seventh and the Duchess of Savoy. It was necessary to treat with Maximilian, Emperor of Germany, the father of the duchess; and a person qualified to undertake this mission was required by the king. Conversing one day upon this subject with Bishop Fox and Sir Thomas Lovel, Henry was persuaded to send for Wolsey, whom his two friends commended in high terms, as possessing the eloquence, address, and prudence necessary to conduct an important and delicate negotiation. Wolsey, on being introduced into the presence of the king, displayed so much discretion and ability, that Henry commanded him to prepare immediately for his journey, and to receive the instructions necessary for his undertaking, from the council. Wolsey resolved to exert his powers to the utmost, in order to secure the favour of the monarch, whom he contrived still further to propitiate in the subsequent interviews, previous to his departure. Having obtained his dispatches, Wolsey, after taking leave of the king at Richmond, about noon, reached London at four o'clock; he proceeded to Gravesend, where he arrived in three hours; hastened from Gravesend to Dover, which he entered on the following morning, just in time to step into the

* Cavendish, p. 76.

* Cavendish, edited by Singer.

passage boats which were under sail for Calais. From Calais he hurried onwards to the emperor, who was at a place not far from that city; and after obtaining an immediate and favourable audience with that exalted personage, he was allowed to depart shortly after the interview. Wolsey now hastened homewards with as much expedition as he could command: his activity met with its due reward; for he succeeded in arriving at Richmond before the king had even dreamed of his having left England. The diligence with which he performed his mission was considered the more remarkable at that time, when travelling was impeded by scanty accommodation, by the danger of highway robbery, and by the badness of the roads; the first act for the regular repair of which was not passed until twenty years afterwards.* The king was so little prepared for the extraordinary promptness of his messenger, that on Wolsey's entering the royal chamber, he began to reprove him for his dilatoriness, in so long delaying his departure. But he, producing the letters of credit which he had brought from the emperor, acquainted Henry with the details of his mission, in which he had somewhat transgressed the limits of his instructions. The king was delighted with the zeal and address of his messenger, and was even pleased with the manner in which, upon his own responsibility, he had ventured to exceed his commission. It was not, however, the habit of Henry the Seventh either to promise lavishly, or to reward liberally, the services of his subjects. With his accustomed reserve, he dissembled his surprise at the quick return of Wolsey; yet it was not long before he recompensed his zeal, by installing him in the Deanery of Lincoln,† at that time the most valuable benefice under a bishoprick; and 1508. soon afterwards, the rising churchman was appointed almoner to the king. The incident which procured these distinctions, was probably regarded by Wolsey as extremely conducive to his advancement; for long after it had occurred, when the vicissitudes of his life caused him, perhaps, to dwell with a pleasurable regret upon earlier and happier days, he related to Cavendish the circumstances of his first trans-

action in state affairs, with a minuteness which has been faithfully copied by that admirable biographer.*

The death of Henry the Seventh, which took place in 1509, had been anticipated by the persons in attendance upon him, for some time before Wolsey was introduced to his notice. That Wolsey, warned by the precarious state of the king's health, endeavoured, before his decease, to insinuate himself into the favour of the heir-apparent, appears probable; for one of the first acts of Henry the Eighth, upon his accession to the throne, was to make the almoner privy-councillor, and to present him with the house and gardens, at Bridewell, in Fleet Street, formerly belonging to Sir Richard Empson, but falling, upon his attainder, to the crown. This mansion, on the site of which Salisbury Square and Dorset Street now stand, was surrounded with gardens, extending to the river, twelve in number, and with orchards corresponding in size. It was for some time the scene of Wolsey's splendour, and of Henry's revels, until the favourite became the possessor of York House, and the builder of Hampton Court and of Esher. But, notwithstanding the favour manifested by this donation, the greatness of Wolsey cannot be said to have commenced immediately upon the accession of the young king. Compelled, for some time, to play a subordinate part in the council, it was his successful endeavour, before attaining any political influence, to secure that secret empire over the mind of his sovereign, which should prove more powerful than either tried capacity or long service. It would not have been practicable for mean abilities to acquire, in any large measure, the esteem of Henry the Eighth, who, before his understanding was undermined by conceit, and cramped by prejudice, was a youth of such promise, that, to use the words of his biographer, had the performance of his riper years answered it, "none of his predecessors would have exceeded him: but as his exquisite endowments of nature engaged him often to become a prey to those allurements and temptations which are ordinarily incident to them, so his courage was observed, little by little, to receive into it some mixture of self-will and cruelty."† The arts by which Wolsey sought to recommend himself, while they flattered the passions of the gay and ardent

* In the fourteenth and fifteenth years of Henry the Eighth. Until the reign of Charles the Second, the roads were repaired by the landholders in the respective counties, upon whom a rate was imposed. ANDERSON'S Hist. of Commerce, vol. ii., p. 44.

† Le Neve's Fasti, p. 146.

• Cavendish, p. 77.

† Herbert, p. 2.

monarch, were addressed, likewise, to his intellectual qualities. Perceiving the inclination which he betrayed for the pleasures calculated to allure a youth of eighteen, the crafty churchman advised the king to follow the bent of his desires, and to leave the management of state affairs to his counsellors, with whom he promised to make arrangements, by which propositions might be reported when they had been digested by older heads, and all the trouble of discussion should have been concluded. At the same time that Wolsey proffered this suggestion, he counselled the king to pursue those studies to which his attention had been directed from his childhood; and especially to continue a diligent perusal of the works of Aquinas, for whose doctrines Henry entertained a lively partiality. With discourses of this nature, Wolsey mingled instructions on the art of government, and disquisitions on important subjects of every nature: so that while Henry regarded him with pleasure as the promoter of his enjoyments, he could not fail to view him with admiration as a politician, and with reverence as a divine. It was, however, no easy task for a man arrived at his period of life, to combine his habits with the ideas and pursuits of a young prince not half his age, who might prefer the society of so many gay and gallant courtiers, all emulously seeking his favour. But Wolsey, with singular address, instead of driving his youthful rivals from the presence of the king, endeavoured to conciliate them by those attractions of wit and eloquence which he possessed in an eminent degree. It is natural for the inexperience of youth to be flattered by every tribute of regard paid to their imagined consequence by those who have outlived the follies, without losing the elasticity, of that fickle age. From those among the male favourites of Henry, who were most endeared to the king by their merits and accomplishments, Wolsey playfully demanded a compact of mutual fidelity and good offices. With the highly-born ladies by whom the court revels were shared and adorned, he was equally solicitous of favour. "Whosoever of them was great, to her he was familiar, and gave her gifts."* He was courteous and liberal to all; he sported, he jested, he sang, he even danced; forgetting, or perhaps holding in lower account, the decorum proper to his sacred habit.

Exertions, so well directed, soon obtained for him such influence at the court, as had not been enjoyed by any minister in the preceding reign. Those who had hitherto employed him as an agent, now sued to him as a superior. The two contending parties in the council quailed before his ascendancy. The Earl of Surrey, who had hitherto seen in him only the humble but useful ally of Fox, now began to fear him as a rival. Fox, who had endeavoured to accelerate his rise in the hope of his aid to resist the encroachments of Surrey, perceived that he had fostered a man so gifted by nature, and so energetic from habit, that he could never be chased from the road to preferment, after he had once entered upon the right track. Such of the nobility and courtiers as had suits to prefer, or were anxious to recommend themselves to the notice of the king, found it expedient to ensure a welcome through the mediation of Wolsey. The court had been little attended during the reign of Henry the Seventh; divisions, resulting from the civil wars, had prevented many of the nobles from presenting themselves to the Lancastrian monarch; poverty had detained some, and the absence of all attraction in an economical and gloomy court, had kept many within their remote but more hospitable mansions. Now the scene was changed, and suitors, long withheld from these various motives, thronged around the king and Wolsey. So plentiful, as Cavendish tells us, were the presents proffered to Wolsey, in order to procure his good offices, that "he wanted nothing, either to please his fantasy, or to enrich his coffers, fortune so smiled upon him; but to what end she brought him, you shall hear."* Meanwhile honours were showered upon him by the king, with a lavish hand; he was presented to several livings of value, in addition to those which he already enjoyed; he was appointed Registrar of the Order of the Garter, and was not 1510. long afterwards intrusted with an office still more active and important, to keep him about the person of the king. Scarcely was Henry the Eighth seated on the throne, than inducements were held out to him to enter into hostilities against France; and his vanity rendered such propositions too acceptable to be rejected. It would have required, indeed, but little political skill to have managed the country in that

* Strype's Eccl. Memorials, vol. i, p. 189.;

state of tranquillity in which his prudent father had left it. Ferdinand, King of Spain, was solicitous to remain at peace with England, an union with which had been cemented by the marriage of Henry with his daughter. Maximilian, Emperor of Germany, was too anxious to secure the possessions of Burgundy, and the Low Countries, which he had obtained in right of his wife, to offend so important and warlike a nation as the English. The pope, Julius the Second, sought to secure the alliance of England, which he hoped to engage in his own designs against France. He paid the utmost deference to Henry, to whom he sent a golden rose, dipped in chrism, and perfumed with musk, to be presented to the king at high mass, with the benediction of his holiness. But this emblem of peace and sanctity was accompanied by a letter from the pope, breathing sentiments of the utmost hostility against Louis the Twelfth of France, and representing that monarch as one who, having no regard either to God or to a good conscience, designed to build his own greatness upon the entire conquest of Italy.

Henry the Eighth, like his predecessors of the Lancastrian line, had set out in his career with professions of profound veneration for the holy see. Actuated partly by the necessity of appearing consistent with his declarations, but more by the ambition of signalizing his name as the restorer of the conquered territories in France to the English crown, and by the desire of asserting his title to the throne of France, the gay, impetuous king resolved to attack the dominions of his neighbour, and to take the command of the invading army in person.

It was scarcely probable that Wolsey would oppose a design which must have been so acceptable to the pope, whom, as a churchman, he was inclined by education, and bound by interest, to conciliate. It is at the same time likely that he perceived the folly and inutility of the scheme, which plunged a secure and prosperous nation into unnecessary difficulty and expense. Whatever may have been his secret opinions, he possessed not, in all probability, at this time, influence sufficient to change the course of events; and it is to be feared that he was not disinterested enough to desire it. War was accordingly declared: the league in

imilian and Ferdinand, was dignified by the name "*Holy*," although it originated in motives varying widely from the avowed desire of protecting the pope from the incursions of France. Surrounded by all the martial portion of his own subjects, and displaying in his own person youth, strength, and warlike ardour, Henry felt that his triumphs would be adorned, and his anxieties diminished, by the presence of Wolsey, on whose counsels he had learned to depend, and whose society he had begun to think indispensable to his enjoyments. The important, but inglorious office of victualler to the forces was, therefore, conferred upon Wolsey. In accepting it, he at once evinced good sense in disregarding the illiberal sarcasms cast upon his birth, and displayed the variety of his knowledge, and the versatility of his talents, by which he was enabled to undertake business of a nature totally unlike any in which he had hitherto been engaged. He felt, doubtless, the importance of remaining in constant personal communication with the king, who was at an age when impressions are easily made, and swiftly effaced; and he was rewarded for his exertions as victualler, by an appointment of a higher description.

All preparations being at length completed, the king set sail from Dover, on the last day of June, 1512, and after resting a short time at Calais, proceeded to Therouenne in Artois, before which part of the English army had already encamped. Wolsey, with his retinue, followed in the rear, accompanied by the Bishop of Winchester; their united retinues amounted in number to eight hundred men, under the command of Sir William Compton. The place having yielded to the English troops, it was thought expedient to raze it to the ground, excepting the religious houses only; and the victorious army proceeded to invest Tournay, which surrendered, after a short siege. This place, being a bishop's see, having a cathedral, and several churches and monasteries, was deemed worthy of a better fate than that which had been decreed to Therouenne. The interested advice of Wolsey has been assigned as the cause of a preference which seemed directly opposed to good policy. Therouenne, which was near the English pale, might justly be considered as a more valuable fortress than Tournay, an acquisition of comparatively little ment. The indiscretion which sa-

crificed the more important conquest, resulted from the folly of Henry in acceding to the wishes of Maximilian, whose dominions, contiguous to Artois, were frequently annoyed by incursions of the French from Therouenne. Tournay was, therefore, preferred, and was deemed worthy of an English garrison, under the command of Sir Edward Poynings; Wolsey was also made Bishop of Tournay; and he received from the inhabitants, as their pastor, an oath of allegiance to the King of England. Arrangements for its security having been completed, Henry, congratulating himself on having subdued a place famed in history for its resistance to Julius Cæsar, took advantage of his new conquest to hold a solemn feast, which was attended by the Emperor Maximilian, the Duchess of Savoy, and the young Prince of Castile, afterwards Charles the Fifth. These festivities were succeeded by other diversions at Lisle; after which Henry, swelling with the pride of his showy but unprofitable honours, returned to England, followed by the gay and the ambitious, the frivolous and the intriguing throng of courtiers, who had attended his expedition, or flocked to its successful and useless results.

Some time before Wolsey derived the full benefit of his consecration to the Bishoprick of Tournay,* the inhabitants of that city, attached to their former diocesan, and disliking the dominion of a foreigner, resisted the spiritual jurisdiction of Doctor Sampson, whom Wolsey had left in Tournay as his vicar-general; but he finally triumphed over his episcopal adversary, and, by his diligent attention to the business of the town, obtained the chief management of its affairs, and became a popular ruler. This see afforded him considerable revenues, and its citizens treated him almost as a prince, addressing their dispatches "To my Lord Cardinal's grace, and the privy council."† But even higher dignities were reserved for Wolsey on his return to England. The see of Lincoln, vacant on the death of Doctor Smith, became the next step in his ascent to the height which he was destined to attain of wealth and power. This rapid succession of honours and accumulation of riches were insufficient to satisfy the grasping desires of one, who, while he distributed freely, coveted largely the good

things of our worldly condition.— Scarcely was the ceremony of his consecration over, before he disgraced his holy office by a successful attempt to possess himself of goods belonging to his predecessor; and Cavendish, repressing, from a sense of justice, his partiality for Wolsey, confesses that he had, at various times, seen the stolen furniture in the house of his master. Tournay and Lincoln were both conferred upon him in the same year; but a yet higher dignity awaited his acceptance: for within a month the archbishopric of York being vacant, he was endowed with the temporalities of that see in August, and was actually translated to it in November. This sudden elevation to the second dignity of the Anglican church, Wolsey owed, no doubt, in part, to one of those accidents which occur in the life of every prosperous individual. Bambridge, the late prelate, was a man in the vigour of life, who held the station of ambassador at the court of Rome, in conformity with the custom then prevalent of employing churchmen in the missions, now more suitably, as well as advantageously, assigned to the laity. The death of Bambridge, which happened suddenly, was attributed to various causes, but it was undoubtedly the effect of poison, administered by some unknown hand, and imputed by common report to his steward, whom he had struck in a fit of passion. A more authentic account unhappily affixes the crime upon Giglis, bishop of Worcester, an Italian, who succeeded Archbishop Bambridge as ambassador at the court of Rome; and the pope, unwilling to throw discredit upon the church, is said to have concealed the dark deed, and to have screened it from punishment.*

Elated by the rapid progress of his fortunes, Wolsey now displayed the arrogance of his character, without fear or scruple. Warham, Archbishop of Canterbury, and at this time lord chancellor, was the first to feel the encroachments by which his brother of York sought to enhance his own dignity, at the expense of the rights of others. It had been the custom, before the elevation of Wolsey, for the cross of Canterbury, borne before the archbishop, on solemn occasions, to take precedence of the cross of York, except within the diocese of York. Great importance

* Strype's Eccles. Memorials, vol. i, p. 172. † Ibid.

was attached to this distinction, and in the reign of Edward the Third, a parliament being summoned at York, attendance was refused by the Archbishop of Canterbury upon the plea that the metropolitan of England should not be constrained to lower the emblem of his dignity before the ensign of his brother archprelate.* In defiance of the established usage, Wolsey ordered his cross to be erected, not only within the precincts of Warham's jurisdiction, but even in his presence; nor would he, on the remonstrances of the primate, desist from this act of intrusion. To possess, however, as of right, and not merely by usurpation, and to exercise superiority in all points of worldly greatness, was most agreeable to a man so constituted as the new archbishop, and he resolved to sue for the rank of cardinal, a promotion which he trusted might be followed by the yet higher honours of a legatine commission. Leo the Tenth, who had succeeded Julius the Second in the pontifical chair, was disposed, both from inclination and policy, to bestow the desired honour upon the favourite of a powerful monarch, a dignitary who was likely to reflect credit upon the church. The mode which Leo adopted of forwarding to Wolsey the insignia of his new honours was not, however, approved by the cardinal elect; and being apprised that the "*hat*" was on the road to England, in the charge of a common messenger, or, according to the language of the times, "in a varlet's budget," Wolsey deemed it essential to his dignity that a more honourable means of conveyance should be provided. Previous to the arrival of the papal messenger in England, he was replenished, by the command of Wolsey, with a variety of costly decorations and habiliments, suitable to the importance of his burden. The hat was met on Blackheath by a great number of the clergy, and of gentlemen, and was then conducted to London with great triumph. Meanwhile preparations were made for its reception in Westminster Abbey, where all the bishops and abbots of London and its vicinity were assembled in their richest copes and mitres, in order to celebrate the confirmation of this new dignity to the Cardinal. So solemn was this ceremony, that Cavendish, who was present, declares that he had never witnessed a

more imposing scene, except at "the coronation of some mighty prince or bishop."† Nor did the honours of the hat terminate here: in all public processions, it preceded the cardinal wherever he went; when he performed mass in the king's chapel, this emblem of his ecclesiastical degree was placed upon the altar, appearing before the people as an idol, set up by the pride of Wolsey to be worshipped. In this display of his newly-acquired honours, Wolsey had a deeper aim than the mere ostentatious and childish exhibition;—the age was one of ceremony and of pomp; and by a costly exterior, always most admired among a people the least prone to intellectual culture, Wolsey, perhaps, thought to obliterate the remembrance of his obscure origin and sudden rise to power. Unhappily for him the event proved otherwise, and the magnificence of the Cardinal drew upon him the bitterness of popular sarcasm, the secret jealousy of the nobility, and the dislike of the clergy.

Warham, archbishop of Canterbury, had been regarded hitherto as one of the principal persons about the throne, and as one of the most esteemed among the confidential advisers of the King. Auster and averse to new measures, the Primate beheld with chagrin the ascendancy of Wolsey, whose conduct towards him was marked by a haughty assumption of superiority. Warham had long held the high office of Chancellor, and had enjoyed much of the late king's confidence. Averse, therefore, in all probability, to play a second part, but alleging his age and infirmities as a plea for his retirement, he resigned the seals, which were immediately offered to Wolsey. The conduct of the Cardinal on this occasion has been variously stated; and even Cavendish reports him to have driven Warham from office by his intrigues. But this statement is incorrect; the resignation of Warham was voluntary, and even his own friends appear to have imputed no blame to his rival and successor. Ammonius, the friend of Erasmus, in writing to that celebrated man, who was warmly attached to Warham, expresses himself thus: "*Your Archbishop, with the King's good leave, has laid down his post, which that of York, with much importunity, has accepted of, and behaves most beautifully.*"‡ The change in this important station was soon fol-

* Cavendish, p. 92.

† Cavendish, by Singer. Note, p. 93.

lowed by the temporary retirement of several of the most favoured courtiers, and the resignation of some of the most experienced ministers. The Duke of Norfolk begged permission of the King to withdraw to his country residence; for the embarrassed state of the finances, arising from the lavish expenditure of the Monarch, rendered it difficult for this able statesman and dexterous courtier to play his part, and preserve his reputation, in both characters. Yet the Duke, divided as he was between fear of offending his sovereign, and the risk of ruining the country, resigned not his situation until 1522, when he was succeeded by his son, the Earl of Surrey. The Duke of Suffolk, unjustly incensed against Wolsey for refusing to cancel his debt to the King, absented himself for some time from court, but was soon recalled to the presence of Henry, whose favour he continued to enjoy long after the more brilliant prospects of the Cardinal had been darkened by reverses. Fox, the early patron of Wolsey, quitted the court, more in sorrow at his own loss of power, than in anger towards him whose exaltation he had hastened. The advice of the Bishop to Henry, that he should beware how he allowed the servant to be greater than the master, "drew forth a reply which was amply verified in this reign—that the servants of the King should obey, and not command."

CHAPTER SECOND.

Preferments, Revenues and Household Establishment of Wolsey.—His sentiments towards Francis the First.—Wolsey as a Judge,—as an administrator of the Church Laws.—Mission of Wolsey to France, and its consequences. [1516 to 1521.]

WOLSEY was now Cardinal de Santa Cecilia, Archbishop of York, 1516. and Chancellor of England. His aspiring mind was not satisfied even with these distinctions; and resolving to obtain the supremacy in ecclesiastical affairs relating to this country, he sought, and procured a bull, investing him with legatine authority. This commission procured to the Cardinal a vast accession both of wealth and influence; and it appeared scarcely possible that he could exercise the authority thus intrusted to him, in the three great situations which he filled, without peril to himself, and encroachment upon the dignity of the King.

To support the style suitable to his rank in the church and the state, the revenues of Wolsey were necessarily the object of his solicitude; and it is melancholy to see that in a mind naturally liberal, ambition gave birth to avarice, and avarice engendered laxity of principle. This powerful statesman, who should have been incorruptible, scrupled not to receive from Charles the Fifth, Emperor of Germany, the annual bribe of three thousand pounds Flemish; and from Francis the First, twelve thousand livres, also paid yearly, in order to secure the interest of the Cardinal in behalf of those Princes.* Nor did he blush to stipulate with the secretary of the Duke of Milan, that, upon the promise of an inviolable peace between Henry the Eighth and that Potentate, an annuity of ten thousand ducats should be transmitted to enrich the coffers of Wolsey, during the life of the Duke.† In addition to these acts of baseness, it is recorded, to his further disgrace, that he was accessible to the influence of presents, in the exercise of his legatine office; and that he degraded himself by extortions to a considerable extent, in that capacity. Augmented by these resources, the income which Wolsey enjoyed would appear ample, even if estimated according to the value of money in the present day, when a pound is equivalent to a crown only of the coin of Henry the Eighth. But Wolsey had still other means of obtaining wealth. Besides the scandalous emoluments already recited, he derived profits of a less reprehensible nature, from the bishoprics of Bath, Worcester, and Hereford, which he held in farm for the foreign dignitaries to whom these sees belonged, and who preferred receiving from them a regular sum to an uncertain and precarious collection of their full revenues by agents.‡ This injurious system had been too long practised to reflect upon the conduct of Wolsey in lending his countenance to it; it had even been encouraged by Henry the Seventh, who, with great professions for the weal of the church, had chosen thus to risk its best interests, by rewarding foreigners, sent on legations or other business, with benefices upon which they could not reside; a mode of payment more consonant to the inclina-

* Anderson's History of Commerce, vol. i. p. 30.

† See, in Rymer's Fœdera, vol. xii. p. 525, a promissory obligation to this effect, from the secretary of the Duke of Milan.

tions of that wary king, than pecuniary remuneration for the services rendered to him. Beside the sums reaped from this commercial scheme of managing ecclesiastical affairs, Wolsey derived the privileges of patronage in each diocese; for the disposal of the livings in the presentation of the foreign bishops was included in his bargain: and, with his usual dexterity in turning all things to the best account, it may be conjectured that this authority was not unproductive of emolument, as well as power. To the funds arising from these sources were added those proceeding from the rich abbey of Saint Albans, held by him in commendam, although he did not enter upon its temporalities until 1521. It is true that when Tournay was afterwards restored to the French, he was compelled of course to resign the bishopric of that city; but he received twelve thousand livres yearly by way of compensation: and the bishopric of Durham, which he also held, but resigned into the King's hands upon the death of Bishop Fox, he relinquished in like manner for the see of Winchester, to which he was immediately advanced.*

That Wolsey, possessing such opportunities of accumulating money, should not have provided for a reverse of fortune but too probable in his case, by transmitting sums of money to some foreign agent, appears to indicate a remarkable want of foresight, or a strangely overweening confidence in a man otherwise so gifted. He seems, indeed, while he collected rapaciously, to have spent lavishly; and there are few narratives which present a more curious detail of combined luxury and pomp, than the account given by Cavendish of the household arrangements, the dress, and the retinue of Wolsey.

In compliance with the practice usually adopted by the nobility of the times, Wolsey formed his domestic establishment upon the model of the royal household. The vast number of individuals residing under his roof were ranged in three classes; a distinction esteemed necessary when the attendants varied in their rank and origin from the son of an Earl, to that of a peasant. Accordingly, three tables were spread daily in the great hall, in which the ample, but rude and unsocial repasts of our ancestors were uniformly served: and where the invidious and indelicate

interposition of the salt-cellar to divide the superior from the inferior classes, was as widely at variance with our present improved notions of right, as with all the feelings of propriety which forbid the appearance of any distinction whatever between guests who are admitted to the same board. It is probable that, in Wolsey's household, the various ranks and offices of each individual were more systematically defined, than among the numerous, but sometimes ill-arranged domestics of the nobles of that day. Three tables were placed daily in the hall of the Cardinal, each being superintended by an officer, suitable in station to those over whom he presided. At the head of the first table sat a priest or dean, who fulfilled the capacity of steward, and whose company at the table consisted of the first class of domestics; while the treasurer, who was always a knight, and the comptroller, an esquire, each of whom bore white staves of office, took their seats at the head of the second and third tables. The lower class of domestics, who performed the menial offices, took their meals in the hall kitchen, under the direction of two clerks, besides a clerk of the kitchen, a surveyor of the dresser, and other agents in this well-arranged system of luxury. But in addition to the tables thus enumerated, as daily spread for the accommodation of the household, there were others prepared in separate apartments. At one board sat a company of young lords, who were placed under the roof of the Cardinal for the purpose of polite education, and who paid for their board and tuition. These youths were entrusted to the care and guidance of an instructor of the wards, whose duty it was to initiate his pupils in the forms of graceful behaviour, and in the mode of exhibiting a proper deference toward superiors. Each of these noblemen was allowed several servants; the Earl of Derby, who, as well as Lord Henry Percy, the son of the Earl of Northumberland, was an inmate of Wolsey's, had five, but most of the young lords were contented with two, attendants. The gentlemen ushers, among whom was Cavendish, the biographer of Wolsey, were permitted to sit at the "mess of lords:" but another table was prepared for the chamberlains and gentlemen waiters, although these were men sprung chiefly from good families. Of Wolsey's individual repast, nothing is said by Ca-

* See Lord Herbert. n. 78.—Cavendish. n. 95.

vendish ; but it is probable that he sat with the young lords.

The kitchen of the Cardinal was under the direction of a master cook, who went about daily, in garments of damask satin, or of velvet, and wore a chain of gold round his neck. To execute the commands of this distinguished and important personage, were two grooms, six labourers, and as many children, who probably assisted in turning the spit ; a laborious, but indispensable occupation, both degrading and unwholesome, the necessity of which has been happily superseded by well-known machines of modern invention. The allied offices of larder, scalding-house, watery, bake-house, scullery, buttery, pantry, ewery, chaundry, cellar, and garden, together with the laundry, and wardrobe of beds, had each distinct grooms, yeomen, and pages, varying in number according to the occupation required in each province. To this list must be added two tall yeomen and two grooms, who acted as porters ; a yeoman of the barge ; a master of the horse, a clerk and yeoman of the stable ; a saddler, a farrier, a yeoman of the chariot, a sumpter-man, a yeoman of the stirrup ; a muleteer, and sixteen grooms of the stable, each of them keeping four great geldings.

A yet more numerous and more expensive order of inmates, however, deserve notice. Much of the expenditure of a nobleman, or dignitary of the church, in those days, went to support a numerous and luxurious body of chaplains, who were liberally paid, sumptuously maintained, and, when officiating in their sacred office, magnificently attired. There were in the service of Wolsey, a dean, who was always a great divine ; a sub-dean, a repeater of the quire, a gosseller, or reader of the gospel, a pisteller or reader of the epistle, and twelve singing priests. These clerks all found means to enrich themselves in the household of their opulent and lavish patron ; and were proved at the exposure of his affairs, which eventually took place, to be the richest of his dependants. To assist in the performance of the fascinating, but unsatisfactory service which the church then enjoined, these clergymen had twelve singing children, and sixteen adult choristers, with a master to instruct the children, and a servant to attend upon them ; and occasionally there came, says Cavendish, "divers retainers of cunning singing men," to swell

the full strains which were sung at the principal feasts. Our simpler and more rational notions of the services acceptable to the Most High have banished, perhaps with too unsparing a hand, the luxury of hearing fine devotional music in our churches ; but it is agreeable to reflect on the improvement of taste which has abolished the gorgeous dresses, approved even by the cultivated and fastidious taste of Wolsey. The furniture of his chapel, the jewels, ornaments, and garments placed there for the use of the priests, the crosses, candlesticks, and other implements of devotional splendour, were more than ordinarily costly and abundant ; and Cavendish enumerates forty-four copes of the richest materials to have been occasionally displayed by the chaplains of the Cardinal, when in solemn procession. Beside this clerical establishment, Wolsey had an almoner, whose usual office in such households was to attend upon the lord and master at dinner, in conjunction with the carver, the cup-bearer, the gentlemen yeomen, and gentlemen waiters, and, in some families, to have the residuè of the repast at which they had assisted.* This class of attendants amounted, in the household of Wolsey, to forty-six in number, and with the chamberlain, vice-chamberlain, gentlemen ushers, yeomen ushers, grooms of the chamber, and yeomen of the chamber, may be considered as the peculiar and personal servants of the Cardinal. These formed, all together, a body of one hundred and forty-three persons.

The secretaries, clerks of the signet, and counsellors of Wolsey, of whom he had six, were always persons of information and character. Sir Thomas More, Gardiner, bishop of Winchester, and Thomas Cromwell, afterwards prime minister, each at some period of their lives held one or other of those offices in the establishment of Wolsey ; a mutual advantage being afforded to master and dependant by the free intercourse of powerful, though dissimilar minds.

The manner in which it was the daily custom of this proud prelate to repair to the exercise of his public duties, was suitable to his domestic splendour. In the morning, after being apprized that a number of peers and of commoners awaited his appearance, Wolsey came forth from his chamber, into his state

* See Northumberland Household Book, pref. 417.

apartments, in his cardinal's dress of crimson or scarlet satin or damask, the richest that could be procured, and wearing upon his head a "pillion" or cushion, surmounted with a noble, or elevation of black velvet, attached to the cushion. About his neck he wore a tippet of fine sables; nor was the magnificence of his attire confined to the more conspicuous parts; even his shoes were the subjects of wonder and of ridicule to a satirical contemporary of the cardinal, in a supposed dialogue between two priests' servants.

"Rede me, and be not wrothe,
 "For I say no thyng but trothe;
 "He hath a payre of costly shewes
 "Which seldom touche any grounde,
 "They are so goodly and curious,
 "Are of gold and stones precious,
 "Costing many a thousand pounds.
 "*Wat.* Who did for the shewes paye?
 "*Jeff.* Truly many a rich Abbaye,
 "To be eased of his visitacion."*

Thus attired, and holding to his nose the peel of an orange filled with sponge dipped in "vinegar, and other confections against the pestilent air,"† Wolsey walked with great pomp to the outer door of his mansion, the great seal of England being carried before him, and after that, the cardinal's hat borne by some nobleman, or gentleman, bareheaded. And thus passing on, preceded also by his two great crosses of silver, and followed by two pillars, and a large silver mace, gilt, the Cardinal, amidst the cries of his gentlemen ushers, "On, on, my lords and masters," amidst the envy of some beholders, and the admiration of others, bent his course to the court of chancery, riding upon a mule splendidly caparisoned, and attended by his pillars, his crosses, his pole-axes, and running footmen. While condemning as frivolous and pompous this ostentatious array, the benevolent mind reverts with pleasure to one circumstance, which presents the character of Wolsey in a more favourable aspect. It was not until after he had paid his early and private tribute of devotion at the shrine of "Him who doth dispose and govern the hearts of princes," that Wolsey resorted to the business of that world, the enjoyments and even the cares of which render such a preparatory service but too requisite.

To attend the performance of the ordinary masses, merely, might have been deemed by the Cardinal a customary act of decorum, with which no head of a household could, with propriety, dispense. But Wolsey, not satisfied with this observance only, retired within his closet, and alone with his chaplain, a man of learning, and of veracity, he went through his daily service; nor did he, according to the testimony of that person, retire to bed, however he might be oppressed with fatigue of body, or anxiety of mind, with even one collect omitted, in his customary and prescribed devotions.*

It was both the interest and the inclination of the Cardinal to render the banquets which he gave to the king more agreeable to Henry, and more dazzling to the courtiers, than the entertainments given by any other person of rank. The king had a childish delight in a surprise, which then constituted the chief spirit of a courtly assembly: accordingly, it was his whim to arrive suddenly at the episcopal palace of Whitehall in a mask, with a small group of companions, dressed to represent shepherds, but with garments made of fine cloth of gold, and their hair and beards composed of silver and gold wire.

The Cardinal, who was seated under his cloth of estate, at a sumptuous banquet, graced by the presence of mingled gentlemen and gentlewomen, was warned of the approach of the royal shepherd by the discharge of "chambers," or small cannon, so called from their being little more than chambers for powder, resting upon no carriages, and adapted only for festive occasions.† To play disguised at a game of dice, called num-chance; to dance with the ladies assembled on the occasion; to challenge the guesses of the Cardinal as to which of the newly arrived band was the king, and to enjoy his mistake in fixing on Sir Edward Nevill, a comely and portly knight, for his royal master, constituted the chief diversion of the night, the business of which was eating and carousing. Unsuitable indeed were such amusements to the situation of Wolsey as a dignitary of the church, to his occupations as a minister and as a judge, and to his character as a man; and perhaps they contributed, in reality,

* See Dialogue between Watkins and Jeffrey, two Priests' Servants, by William Roy; the first person, according to Anthony Wood, who reported Wolsey to be the son of a butcher, *Wood's Athenæ Oxonienses*, vol. ii., p. 234.

† Cavendish, p. 105.

* Cavendish, p. 105.

† See Cavendish. Note by Singer, p. 113.

but little to the influence which he long held over the mind of his sovereign.

The position of foreign affairs, during the early part of the reign of Henry the Eighth, assisted in augmenting the power which Wolsey already possessed. Peace had indeed been concluded with Louis the Twelfth, and it was cemented by the sacrifice of Mary, the young and beautiful sister of Henry, at the altar of policy, where she was united to the king of France, a man nearly three times her age, with the consolation only of being as conspicuous for her rank, as she had before been for her personal charms. The death of Louis had dissolved this unnatural bond; but while it rendered the continuance of the treaty uncertain, it imparted happiness to the queen widow, who almost immediately bestowed her hand on Charles Brandon, Duke of Suffolk. Henry was at first indignant at the choice which his sister had made, having probably cherished the intention of advancing the interests of his kingdom by seeking another alliance between some foreign potentate and his sister.

The part which Wolsey took in this affair was conciliatory, and it may have been disinterested. He warned the young dowager against a hasty marriage,* immediately after the death of her royal consort: but, when the consequence of an ardent and mutual attachment became irrevocable, and was avowed, he endeavoured to reconcile the mind of the king to an event which could not be recalled.† Henry, who began to perceive that it would be more for the honour of his sister to return to her country with her rich dowry, than to bestow it upon some foreign nobleman, or petty prince, was consoled, also, by the partiality which he entertained for Brandon, one of the earliest and latest of his friends.

The peace which had been concluded between England and France, before the death of Louis the Twelfth, was not of long continuance after the accession of Francis the First. That monarch, brave, generous, and accomplished, was by no means the first aggressor in the hostilities with which he was for some time menaced by Henry. Disposed both by policy and inclination to maintain a close alliance with England, he had, nevertheless, the ill-luck to incur the

resentment of Wolsey, who too frequently allowed his private interests to affect the great affairs of his country. The cause which has been assigned for the animosity expressed by Wolsey towards the French king, related to the bishopric of Tournay, which, while it yielded an ample revenue to the Cardinal, had occasioned him considerable trouble and anxiety, from the unwillingness of Guillart, the deposed bishop, to resign his spiritual jurisdiction. Strengthened by a bull from the pope, Guillart had acquired a number of partisans both within the city and elsewhere; and Wolsey, alarmed for the consequences of this success, solicited Francis to confer another bishopric upon Guillart, in order to divert him from prosecuting his designs upon Tournay. Francis either declined, or delayed to comply with this request; and the indifference thus evinced to his interests was not forgiven by the Cardinal, until he had been conciliated by the flattering terms of "Pater" and "Dominus" addressed to him by Francis, and more effectually appeased by the powerful agency of gifts and promises.*

While a sentiment of displeasure towards Francis prevailed in the breast of the Cardinal, the measures pursued by the English government tended to an alliance with Maximilian, Emperor of Germany, with Pope Leo the Tenth, and with the wily Ferdinand of Spain. The death of Ferdinand, the discovery of the artful and plausible character of the emperor, and the skilful negotiations of Francis, produced a manifest change in the politics of the English court. Wolsey was employed as the mediator between Francis and Henry, and he displayed so much address in this important matter, that Henry, in the exultation of his heart, declared "that Wolsey would govern both him and the King of France." Ambassadors were soon afterwards dispatched from France to London, and a treaty was concluded, containing a clause relative to the restitution of Tournay, a point which Henry, prompted by the representations of his minister, was induced to concede.—Wolsey had long been weary of the trouble and insecurity of his foreign see, and the compensation offered to him, was a desirable equivalent for sums which were collected and transmitted with dif-

* See Ellis's Original Letters, vol. i. p. 118.

† Herbert, p. 55.

• Herbert. n. 74.

faculty. The other Englishmen, officially concerned in the garrison of Tournay, were also remunerated for the loss of their posts by the distribution amongst them of money furnished by the French king.

While thus engaged in foreign negotiations, Wolsey exercised, 1518. with diligence and impartiality, his authority as chancellor, an office in which he is said to "have spared neither high nor low, but to have judged every estate according to their merits and deserts." *

The first measures of the Cardinal, in this capacity, were unpopular, and in some instances frivolous and injudicious. Considerable importance was at this time attached to the subject of apparel, and by a recent act, the dress of the laity of every condition had been regulated, forfeitures being assigned for the neglect of its observances. To enforce the new statute, Wolsey sent commissioners into different counties, with charges also to regulate the wages of labourers, their hours of meals, and of rest, settled, in these despotic times, by act of parliament. These agents exceeding probably the injunctions given them, a degree of tyranny was exercised which occasioned the loudest discontent. At Rochester, the just indignation of the populace broke forth on seeing a man pilloried for no greater offence than that of wearing a shirt made of a particular kind of cloth called "ryven." It is difficult to comprehend why so much stress was placed upon a mere distinction in the texture of habiliments, unless it may have originated in a desire for the protection and benefit of some particular manufacture, at that time in need of encouragement. Wolsey was not, it appears, at all times superior to the indulgence of petty irritation, and he even committed his dignity in the dispute, by taking the law into his own hands. Observing, one day, an elderly man in an old crimson jacket, adorned with various brooches, the Cardinal, with his own hands, took from him a dress which the offender was probably not entitled by his rank to wear, but which compassion and decorum should have spared to the aged and defenceless delinquent.†

This act of severity excited much animadversion upon the conduct of Wolsey; and a similar degree of un-

popularity attended the necessary duty of calling to account all those persons in whose dealings either fraud or carelessness was detected, touching the money transactions of the late war. The most salutary regulations were also made respecting perjury, a crime of alarming frequency in the preceding reigns, when evidence in the various courts of justice might be openly bought and sold. Wolsey visited this offence with severity proportioned to the heinousness of an act, which, in the words of Lord Herbert, comprises murder, theft, and detraction: it was, therefore, greatly diminished. During the legislation of this vigorous but unpopular minister, who sedulously endeavoured to inculcate the necessity of a regular administration of the law, courts were erected in order to protect the poor from the oppressions of the rich, who, in those days, thought the world made only for them. These tribunals were at first thronged, but soon fell into disrepute from the delays and improper decisions to which the suitors found themselves liable; and the courts of common law were eventually preferred.* The intention of Wolsey, in thus providing for the benefit of the lower classes, was, however, laudable; and while he exercised a due authority over them, he endeavoured, on various occasions, to raise them to a state of greater independence, and of more importance in the state. By his vigilance and rigid administration of justice, the highways were in a great measure freed from robbers, by whom, in the absence of a regular police, they had been infested to an alarming extent. Acts of violence were visited with speedy and impartial retribution, and, according to the celebrated Erasmus, who was well acquainted with this country,—“it became as free of harmful men, as it was of poison and noxious beasts.”† Lawsuits, which had long wearied the suitors, from the vexatious indecision of preceding chancellors, were now equitably adjusted. The decisions of Wolsey as a judge were allowed to be generally impartial, and his estimation of the evidence before him judicious. “It was strange,” observes a chronicler of this period, “to see the Cardinal (a man not skilled in the laws) sit in the seat of judgment and pronounce the law, being aided at first by such as (according to

* Cavendish, p. 107. † Hall's Chronicles.

* Herbert, p. 67.

† Strype's Ecclesiastic Memorials, vol. i., p. 193.

ancient custom) did sit as associate with him; but he would not stick to determine sundry causes, neither rightly decided nor adjudged by order of law.* He would even reprove sharply those judges who had allowed themselves to be imposed upon by false evidence, and who had not well considered the testimony of both parties. A degree of celerity in the dispatch of legal business was ensured by Wolsey, deserving of gratitude, both from his contemporaries and from posterity. Upon the representation of the Cardinal, the king granted a commission to the master of the rolls, the chief baron of the exchequer, and four of eighteen persons specified, to hear and determine causes in chancery when the chancellor should happen to be engaged in state affairs. This privilege has continued, with some variations, until the present day. Disgusted by the ignorance of the lawyers, and even of the judges, he planned an institution in the metropolis, by which opportunities for studying that science should be afforded to the diligent; but this project, like several beneficent and liberal designs of the Cardinal, was never realized. The model of the building was long treasured in the palace of Greenwich, after the death of Wolsey, as a fine specimen of architectural taste.†

During this period of our history the Chancellor had the sole power of bringing Bills into Parliament, which he exercised by means of committees of his own appointment. An examination therefore of the Statutes passed during the term that Wolsey held the Seals, would show the principles of government on which he acted, and would throw additional light on his general character. Two-thirds of them would be found to be enacted for the protection of trade and manufactures, all of which are now either repealed or have fallen into disuse. These acts, by the number of their minute and painful restrictions, sometimes on the manufacturer and importer, and sometimes on the consumer, evince at once the laudable anxiety of the minister for the welfare of the industrious classes, and his profound ignorance of the great truth, that commerce is always fettered and never served by the officiousness of legal interference. The excellences and defects of Wolsey's legal administration (so far as it was honest) seem to spring

from the same source—the industry with which he carried legislation into a rigid and minute detail. His amendments in the various processes of the law,—his reform of church discipline, especially in his attack on pluralities,—are favourable instances, and ought not to be forgotten in the balance of his merits. Indeed, even with respect to his interference with the freedom of trade, he ought, perhaps, rather to be praised for having so distinctly seen the value of the object, than censured for having mistaken, in common with men of later days and better lights, the means by which the object was to be obtained.

In his administration of the affairs of the church, the conduct of Wolsey was far less exemplary than in his legislative functions; and were it not for the liberal views which he afterwards manifested in the promulgation of learning among the clergy, he would have merited from that body the severest reprobation. A new dignity was now added to the accumulated honours which Wolsey had gained. Leo the Tenth, desirous of establishing a league among all the princes of Christendom against the Turks, sent Cardinal Campeggio into England for the purpose of entering into a negotiation with Henry to that effect; at the same time the legate was empowered to collect a tithe from the English clergy, and to visit and reform the monastic institutions in this country. In order to conciliate the British monarch, Leo not only enjoined Campeggio to cultivate assiduously the friendship of Wolsey, but consented to invest the Cardinal of York with the legatine authority also; and Campeggio was detained at Paris, until a commission to that effect should arrive. This delay was suggested by the vanity of Wolsey, who both objected to admit any one invested with greater ecclesiastical power than himself; and who desired that Campeggio should be supplied with the means of supporting the dignity of his high office, which derived, in the eyes of Wolsey, additional importance, from his being joined with Campeggio as a colleague. With this design, a quantity of scarlet cloth was dispatched to Calais to supply the retinue of Campeggio with new attire, of which it stood in great need. This precaution having been adopted, and the bull of the pope received by Campeggio, that legate was permitted to

* Holinshed's Chronicles, p. 615.

† Galt's Life of Wolsey, p. 209.

cross to Dover, and to enter London with the accustomed parade; yet Wolsey, not satisfied with the reported appearance of Campeggio and his train, sent twelve mules laden with baggage to increase the procession of his colleague. These chests were supposed to contain rich articles of jewellery, plate, and garments, of which the Italian legate was understood to possess a superabundant portion: but unhappily for the credit of Campeggio, one of the mules fell, and the coffer which it carried being burst open by the accident, old habiliments, and pieces of broken bread, or meat, put into the chest as ballast, were exposed to the spectators, too well disposed to sneer at the mock grandeur of the procession.*

Campeggio having paid his tribute of respect to the king, in company with Wolsey, the business of the legation commenced. No success attended the demand made upon the clergy, who refused to pay the tithe; and the visitation of the monasteries remained the sole object of the commission. On this subject it is probable that Wolsey had long formed his opinion, and that it was possibly his desire to effect his great designs without the fear of dissent, or interruption from a colleague. He dispatched Doctor John Clarke, therefore, to Rome, with a petition that the legatine power in England might be vested solely in himself, and that Campeggio might be recalled. The reasons assigned for this request related to the immoralities and ignorance of the clergy, which were enumerated by Wolsey in strong, and probably just terms. Doctor Clarke, acting both at the instigation of Wolsey, and by the command of Henry, proved a successful negotiator. He obtained a bull from Leo, constituting Wolsey legate *a latere*, with power to visit and to reform the monasteries and the clergy of England; and with the unusual and hazardous privilege of dispensing with all church laws for the term of one year after the date of the bull.†

June 10, 1519. This extension of authority gave great offence to the bishops, whose powers it abridged; and was displeasing to the nation at large, who having already beheld Wolsey and Campeggio endowed with the privilege of granting remission for sins, after they had celebrated mass, deemed that the overweening greatness

of Wolsey was dangerous to the people, and injurious to the honour of the king.

Invested with authority which was likely to have an intoxicating influence over his own mind, and which was sure to excite the jealousy of others, Wolsey possessed not prudence, nor, indeed, integrity sufficient to defend him from the snares which sudden prosperity spreads for wisdom and virtue. His first act, as a legate, was to erect a court, in which a kind of inquisitorial jurisdiction was assumed over the clergy. Irregularities and offences, which had either escaped the cognizance of the law, or were not within its prescribed limits, were the objects of inquiry and of punishment at the new tribunal which Wolsey instituted. If the injustice and extortion imputed to him in the exercise of these functions be proved, the conduct of Wolsey in this department is more than ordinarily reprehensible, as the worst feature of the corruption which he had undertaken to abolish. The chief evidence against him in this respect is derived from the history of Polydore Vergil, a foreigner naturalized in England, whom Wolsey had rendered his enemy by committing him, for some offence, to prison. According to this writer, the legatine court was a scene of oppression and exaction of the most scandalous kind. All ecclesiastical persons, suspected of any misdemeanour, were summoned before the president, and were obliged, in many instances, to compromise, by large sums of money, charges from which they could not directly clear themselves. Executors of wills were called to severe account; livings in the gift of the nobility were given by Wolsey to his dependents; and the registration and proof of wills, hitherto the sources of profit to some of the dignitaries of the church, were now monopolized by the Cardinal.* John Aleyn, a priest, who was the person appointed by Wolsey to preside over the court, was, according to Polydore Vergil, a man of abandoned character; with whom all honest individuals dreaded to have any concern. These alleged abuses, which were repeated as accusations in the articles afterwards exhibited against Wolsey, in all probability existed to a certain extent.

The sense of justice which Wolsey manifested in all his other legislative functions, is at variance with the out-

* Hall's Chronicles, p. 593. † Herbert, p. 79.

* Henry's History of England, vol. xii. p. 11.

rageous iniquities which he is affirmed to have countenanced; while, at the same time, his undoubted eagerness for gain may have acted, in some cases, as a counterpoise to the valuable and upright parts of his character. Wolsey was too much feared and hated to do evil without detection. Warham, archbishop of Canterbury, the constant, but temperate opponent of Wolsey's arrogance, informed the King of the reports which taxed his favourite with injustice and extortion. "Father," replied Henry, "no man is so blind as in his own house; I pray you, go to Wolsey, and tell him, if any thing be amiss, that he amend it." This command was obeyed by Warham, who disliked the innovations, as much as the insolence of his rival. The admonition of the primate produced, however, no other effect than that of increasing the hatred of Wolsey towards him; but the information which Warham had imparted to the king was not wholly inefficacious. It opened the eyes of the King to the fallibility of his minister; and some time afterwards, when Ayleyn was accused of illegal practices, Wolsey received a severe rebuke from the king, for tolerating the conduct which he ought to have condemned. From this incident, according to the confident opinion of some historians of that period, the decline of Wolsey may be dated.*

While these circumstances were gradually undermining his influence at home, it remained, to all outward appearance, undiminished; and, at foreign courts, his will was the pivot upon which all important operations moved. One leading principle, governing all the actions of the Cardinal, may be observed, from about this period, until all hope of attaining the object of his wishes was eventually precluded. He had been already exalted to a station, eminent beyond that which any former subject of a British monarch ever enjoyed; yet, like Alexander, he sighed for a new sphere over which he might extend his dominion; and the ambitious and restless ecclesiastic now directed his hopes to the papal crown. At what period of his life this desire was first kindled in the breast of the Cardinal, must be a matter of conjecture; but, perhaps, like many other aspiring men, the earliest yearnings of his soul for distinction were encouraged by a remote and apparently futile hope of

attaining the highest point to which persons of his class and profession could arrive.

The principal influence among the conclave of cardinals, who held the papal election in their hands, was divided between France and Spain; and Wolsey was for some time undecided to which of these continental powers he should devote himself in expectation of assistance. Francis the First possessed fourteen votes in the conclave; he offered his interest to the Cardinal, and seconded his promises by presents and pensions. For some time Wolsey was disposed to adhere to the King of France, but wavered when he saw the young King of Spain raised to the imperial throne. The wisdom and energy already displayed by the young emperor, and the extent of his dominions, ensured to him a degree of importance in the affairs of Europe, which, as Wolsey easily foresaw, would eventually preponderate. The eagerness which Charles displayed to conciliate the British minister, his flattering epithets of "most dear friend," and his pension of three thousand livres, decided the choice of Wolsey, and he may from henceforth be regarded for some years as the secret and powerful ally of the Spanish court. His own mind being determined, Wolsey was not tardy in turning his master to the side of the young emperor; but Henry was constrained for some time to dissemble his intentions.

It had been agreed, in the treaty with France, during the preceding year, that an interview between the two kings should take place at an early period, within the English territory in France. Honour, policy, and inclination forbade the breach of this engagement on the part of Henry; nor was Wolsey reluctant to display to admiring France his greatness, as the proudest and most powerful subject in the train of his sovereign. The celebrated meeting at the field of Ardres, merits, from its novelty in the annals of Europe, and from its magnificence, the minute description which it obtained in some of our English chronicles, and in the lively memoirs of the Marquis de Fleuranges, one of the nobles who accompanied Francis, and who was commanded by that monarch to commemorate the event. It was the last semblance of chivalry, which expired with Henry the Eighth, the festive diversions in the reign of Elizabeth being but the shadow of

* Herbert, p. 81.

knightly prowess. It was the most splendid incident in the life of Henry, and Wolsey shared its glories and its luxuries. Precluded by his sacred office from a participation in those exercises which delighted the young and gallant monarchs, Wolsey, however, appeared in costly and pompous array, as was his usage on all festive and ceremonious occasions. It was his courtesy which directed the ornaments, his judgment which prescribed the regulations of the meeting. As a political affair, the personal communication between Francis and Henry was followed by no important effects. Their union was rather prevented than cemented by the event. The utmost courtesy and deference were, it is true, displayed on either part, both by the princes and their attendant nobles. Yet, in the midst of the most peaceful interchange of compliments and presents, the discerning spectator might have detected the secret aversion of Wolsey from an alliance with France; the ill-disguised distrust of the courtiers and people assembled on both sides; the irresolution of Henry, and the apprehension of Francis that his hold was insecure over the favour of his apparent friend. The scene must have been curious and interesting; unhappily it was soon to be followed by one of a solemn and afflicting character.

On quitting Ardres, Henry repaired almost immediately to Gravelines, where he was joined by the emperor, with whom an understanding had been already commenced in a visit which Charles had recently made to the King of England. Neither Henry nor Wolsey considered it any derogation from their honours to encourage the alliance of this rival of the French king, at the very time that every manifestation of friendship had been displayed towards Francis. The subtle policy of Wolsey was visited with retribution, and he sunk eventually into snares prepared by his own insincerity and vacillation. Engaged as he was with diplomatic manœuvres, his mind was also disturbed by the evident hatred and jealousy of the English nobles. Whilst the higher classes of the community outwardly paid homage to his rank and power, they secretly railed at the haughtiness, and recalled with contemptuous bitterness the lowly origin of the Cardinal. Among those highly born individuals, who, in those days of comparative darkness and ignorance, regarded no distinctions as worthy of respect,

the accidental circumstance of ancient and noble descent, none looked with more indignant disdain upon Wolsey, than Stafford, duke of Buckingham. Allied to the family of Plantagenet both by the male and female line, the proud and aspiring character of the duke had even rendered the suspicion probable, that he was not without hopes of one day ascending the throne, in case of the king's death without issue: if Buckingham ever cherished treasonable designs, the birth of the Princess Mary must have dispelled all confident expectations of success. Previous to that event, he had, unhappily, been induced to hold conferences with those who first tempted him to the premeditation of guilt, and then betrayed his secret. Unconscious of the impending danger, Buckingham accompanied Henry to the field of Ardres, and shone there, one of the most splendid of the English courtiers, who, on that occasion, were said to have far surpassed the French in magnificence. Perhaps the very display which was in part intended to do him honour, exasperated the jealous frenzy of Henry. Shortly after the return of the king and Wolsey from France, Buckingham felt the effects of the gathering storm. He was apprehended, arraigned for high treason, tried, and condemned. His sentence, accelerated by the evidence of his dependents, produced universal regret among his fellow-subjects, and lamentation abroad.

Like all other passing events, the execution of Buckingham was imputed to the Cardinal. Even the emperor is declared to have said that the "butcher's dog had slain the finest buck in England." At home, it was supposed that a trifling incident had occasioned that bitter enmity in Wolsey towards the duke, to which his cruel fate was attributed. It was the custom for the highest of the nobility to hold the sacred water, present the ewer, and perform other offices of respect, at mass, when Wolsey assisted at the service. The more obsequious or more cautious courtiers submitted to the necessity which there appeared to be for these acts of humiliation, knowing and dreading the consequences of a refusal. Buckingham, however, inwardly chafed at the constrained semblance of reverence and even observing merely that Wolsey had the presumption to dip his hands in an ewer of water which the emperor handed to the king, he could not

brook the reflection that he had been involuntarily made to perform a service to a priest. Losing all self-command, he hastily and contemptuously poured the contents of the vessel upon the feet of the Cardinal. For this affront he swore that he would have his revenge, by sitting on the duke's skirts; a figure of speech more intelligible in the days of long trains than in the present time. Wolsey was, however, disappointed by Buckingham's appearing at court on the following day without any skirts to his coat, assigning as a reason for this new fashion that he was resolved to baffle the malicious designs of the Cardinal. For this childish and ridiculous warfare, if Wolsey be justly considered as the originator of Buckingham's ruin, the duke paid dearly. It is certain that, had Wolsey desired to rescue this proud noble from a degrading death, he possessed the power of saving him, for Henry, at this time, would have granted the privilege of mercy to his minister. It is perhaps unfair, however, to consider the conduct of Wolsey on this occasion as wholly dictated by the meanness of revenge. He may have deemed it a necessary act of caution to check, by the death of Buckingham, those aspiring views in the nobles allied to the crown, by which the peace and security of the country might be troubled.

There is reason also to believe that Buckingham was not entirely guiltless of the designs imputed to him; and the example of his father, who had once meditated asserting a claim to the English crown, was not obliterated from the recollection of the public. The most discreditable feature in the proceedings against him was the care taken by Wolsey to procure the absence of those friends and relatives of the unhappy duke, whose intercession might have averted his fate. Twenty-six peers only sat on the trial; and the sentence was pronounced with tears by the Duke of Norfolk, too subservient a courtier to decline this sad office, although the personal friend of the prisoner. Some indications of mercy were manifested on the part of the king; and while his obnoxious measures are imputed to the influence of Wolsey, it is but fair to ascribe to the same source those which betokened a milder spirit. The decree by which the punishment of hanging was adjudged to Buckingham, was changed into the sentence of decapitation, and part of the forfeited estates

were restored to the eldest son. Popular feeling was, however, in a state of unabated irritation against Wolsey, for some time after the death of Buckingham. The galling remark, that a "butcher's son must naturally delight in shedding blood," and other effusions of public resentment, were probably neither unfelt nor unobserved by the Cardinal; and he found, perhaps, relief from some annoyance in the mission which he was at this time induced to undertake, with the avowed object of composing the differences now verging towards hostility, between the emperor and the king of France.

The actual end to which the exertions of Wolsey were directed in the negotiation was to form a confederacy with Charles against Francis on the part of England; and, on his own account, to obtain a promise from the emperor, in case of the decease of the reigning Pontiff, to aid his long-cherished wishes on that point. Charles readily, but without sincerity, accorded the favour requested; secretly resolving, as his subsequent actions proved, to suit his own convenience in the result. A treaty was concluded between the pope, the emperor, and the king of England, to the exclusion of Francis, against whom hostilities were meditated.

CHAPTER THIRD.

The part taken by Wolsey in the Controversy between Henry the Eighth and Luther.—His desire for the Revival of Learning.—His Schemes with respect to the Monastic Institutions.—Erection of the Cardinal's College at Oxford.—His Regulation of the Royal Households.—Embassy of the Cardinal to France.—His decline in the favour of Henry.—The Great Seal taken from Wolsey.—His Humiliation.—Impeachment.—Illness.—Death.—Character.—Burial.

It is necessary to take a cursory view of the life of Wolsey at this period, in order to arrive at 1521. those benevolent designs, and at the great though imperfect achievements which constitute the real glory of this celebrated man; and which afforded a far nobler exercise for his genius than the diplomatic intrigues in which he played a conspicuous, but an unworthy part. It is, however, to be regretted, that he was allured by the voice of ambition, while he cherished the schemes of a

and less aspiring individual would never have projected, under existing circumstances, the reformation which he commenced; and, while the pride and ambition of Wolsey are to be reprobated by the moralist, it is to them that we owe the results of that power, which would scarcely have been the portion of Wolsey, without the agency of these passions.

It was at this æra that the famous controversy between Henry the Eighth and Luther attracted the criticisms of the learned, and the attention of all classes. Wolsey was not engaged in this affair, otherwise than as being one of the objects of the vituperation in which the great reformer occasionally indulged. Described by Luther, in one of his celebrated letters, as "a favourite, a monster, a person hated both by God and man," Wolsey might possibly find his zeal for the interests of the hierarchy increased by the invectives against himself, which were coupled with just, though vehement reprobations against the corruptions of the church. Want of leisure, and perhaps want of inclination to enter the lists with so powerful an adversary, deterred the Cardinal from hurling back the epithets bestowed upon him. Contented to leave his cause in the hands of his royal master, who defended the character of his favourite, in his reply to Luther, Wolsey took no vengeance, except in issuing a commission, commanding that the works of the reformer should be collected in each diocese, and delivered to him by the bishops. Having thus extracted the supposed poison from the people, he resolved to distribute the antidote. He ordered forty-two of the doctrines advanced by Luther to be posted upon the church-door, in every parish, that all persons might read and avoid these "damnable and pestiferous errors," as they are described in the commission, which also declares them "to have taken root as a noxious brier." This proceeding sullies the reputation of the Cardinal as a man of judgment and experience. It was natural that he should think harshly of Luther, and seriously of the mischief, which, as a zealous papist, he might believe to result from the opinions he had denounced: but when the intemperance of zeal had subsided, it might occur to Wolsey, that thus to afford matter for thought and speculation was to give the first impetus to schism. It is however probable, that

he acted, in this instance, in conformity with the wishes of the king, who, by his edicts, his disputations, and vacillations, adopted the most effectual means that could have been devised for propagating a love of inquiry, and encouraging the desire of reform.

Wolsey soon proved that his notions concerning the real danger of the church were enlightened, and his plans for its benefit founded upon just and liberal principles. He saw that the majority of christian philosophers and scholars leaned to the side of the reformers; embraced their simple, but rigid persuasion; increased its growth by the influence of their writings, and honoured it by the purity of their lives. He beheld, on the other hand, the professors and dignitaries of the Romish church, obscured in intellect by the speculative and confused studies in which they were trained to glory, and degraded in conduct by the irregular and voluptuous courses in which they indulged.

To oppose "learning to learning," by encouraging a spirit of laudable exertion, to raise the meritorious members of the church into notice, appeared to the Cardinal to be the only mode by which the declining power of the hierarchy might be sustained. To this end he determined to restore the English universities, now drooping from the indifference of their teachers, to that rank of importance for which they were originally designed among the institutions of this country. Happily for England the services of Wolsey were ensured to her by the frustration of all his hopes of obtaining the papacy. Leo the Tenth expired, as it is said, of a fever produced by joy, upon hearing of the success which attended his army engaged in warfare with the French. Upon this vacancy, it was naturally the expectation of Wolsey to ascend the pontifical throne, through the interest of Charles the Fifth; but in this he was deceived. Charles had little inclination to throw, into the balance of power, a proportion in the scale so advantageous to England as the exaltation of its minister to the highest dignity in Europe. The emperor had also his own favourites, whom he desired to aggrandize; and Adrian of Tortosa, his former tutor, was elected pope before Doctor Pace, the emissary of Wolsey, could reach the scene of contention. This annihilation of all his hopes was, probably, in the mind of Wolsey, conclusive; and although these were not his last efforts to obtain the

papacy, it is likely that he considered this manifest declaration of the intentions of Charles to be an insuperable barrier to his wishes. His ambition may be deemed, therefore, from this time, to have centered in his country, and his schemes of public utility to have regarded her interests alone.

In surveying the condition of the church at this period, Wolsey perceived that, to destroy the corruption which infected the stem and branches of the tree, it was necessary to promote the healthy condition of the root. He regarded education as the soil in which religious knowledge might be restored to vigour. Hitherto the instruction of the young had been confined either to a few great public schools, to the monastic institutions, or to the humble exertions of parish clerks. The higher orders of the clergy received into their houses, it is true, as pupils, in some instances, the sons of noblemen or of gentlemen, on terms the most advantageous as far as private tuition was concerned; but opportunities such as these were afforded only to the sons of the great and opulent; whilst the middling classes of the people, from whom the clergy principally sprung, were wholly destitute of those incentives and those aids to learning, which, in our happier days, they eminently enjoy.

At an earlier period of his career, Wolsey had evinced his zeal for the revival of literature, and his sense of the inefficiency of those who were deputed to maintain its reputation, by an address to all the schoolmasters of England, exhorting them to introduce the classics into their plan of education.* He had afforded his patronage to the institution of St. Paul's School, by Doctor Colet, in 1509, and had devoted a particular attention to the structure and regulations of that valuable seminary, the first which was founded in England by any private individual; but the English universities demanded and received the first and most sedulous care of the Cardinal, and he viewed with regret and anxiety the diminution of honour and importance now attached to those venerable resorts of the studious and the learned.

It was apparently an accident which degraded the notice of Wolsey to the degraded and impoverished condition of the colleges at Oxford. In 1518, the king, and queen Katharine, being on

their progress, at Abingdon, a visit to Oxford was planned by the pious and intelligent Katharine, who desired both to offer her tribute of respect at the famous shrine of the virgin St. Frideswide, and to see the university. Wolsey, who was with the royal pair, accompanied Katharine in this excursion, and remained at Oxford after the departure of the queen. Upon this occasion he made an oration in the Convocation House, declaring it to be his intention to establish fresh lectures in the university, and to apply to the king in its behalf. The heads of the colleges then delivered their charters and liberties into the hands of the Cardinal, and Wolsey, shocked at the irregularity, confusion, and even dishonesty which an exposition of the affairs of the university displayed,* resolved to spare neither trouble nor expense in dispelling the gloom which negligence or knavery had thrown over the scene of his early studies.

Agreeably to his promises, Wolsey made an earnest and early application to the king in favour of the declining yet indispensable institutions of Oxford, and Henry was disposed to enter warmly into a course so accordant with his own reverence for philosophy and letters; but the power of granting pecuniary aid for the noble purpose of restoring the decayed colleges to their former prosperity, had passed away from the king, and the expenses of foreign wars and negotiations, and the costly maintenance of a dissipated court, had left no sums in reserve to promote the extension of knowledge. New and more abundant resources were, however, in store; and Wolsey had sufficient courage to resort to them, and address and wisdom to employ them with advantage.

The monastic system had for some time begun rapidly to decline in public estimation. Several of the most exalted and rigid of the English bishops, had viewed the corruptions which prevailed in religious houses with concern, and had preferred the endowment of colleges to the establishment of new monastic institutions. Reprobated, and in some individual instances suppressed by authority, the monasteries had hitherto possessed some degree of popularity, from the convenience which, in some respects, they afforded, and, among the benefits they produced, none were with so much reason insisted upon by their advocates,

* Strype's Ecclesiastical Memorials, vol. i., p. 193.

as the facilities which they gave to the preservation of learning, and to the instruction of youth.

The condition of society was now, however, materially changed. The art of printing, which had flourished peculiarly in this country, had rendered the intellectual part of the community in a great measure independent of the laborious exertions of the monks, one of whose chief employments consisted in the transcribing of books. The foundation of several grammar schools, since the year 1503, and the increasing fame of Eton and Winchester, had superseded the instructions of the convent schools, which had hitherto attracted the greater portion of young students within the walls of their establishments.

These considerations, and others of too extensive a nature to be here detailed, may appear to have greatly facilitated the design which Wolsey now cherished of diminishing the number of the monasteries, and of turning their revenues towards objects more conducive to the public good, than the continuance of these corrupt and ill-arranged fraternities. But the task which Wolsey contemplated was fraught with difficulty, and attended with odium. For this great scheme, for the motives by which it was suggested, and for the effects which followed it, if Wolsey obtained not the suffrages of gratitude from his contemporaries, he has merited the veneration of all successive generations of his countrymen.

The extraordinary power which he at this time enjoyed, could alone have enabled him even to plan, with any rational hope of success, the dissolution of forty-one monasteries, which he effected in order to form a fund for the erection of new seminaries of learning. It was at first the intention of the Cardinal to have exerted simply his own authority as legate, in the suppression of those convents which were most notorious for irregularity and licentiousness; but from this measure he was dissuaded. Accordingly he applied to Pope Clement the Seventh, who had succeeded Adrian, for a bull, empowering him to suppress the monastery of Saint Frideswide, in Oxford. In 1524 he obtained the object of his petition; and in 1525, another bull, granting him permission to dissolve forty small monasteries.* In the visitation of the

proscribed institutions, it was he folly or ill-fortune of Wolsey to employ the same individual that had already rendered the legatine court obnoxious by his arrogance and extortion. Represented by such a deputy, Wolsey experienced not only interruption from the lower orders of the people, who generally espouse the cause of the suffering party, but reproof from the king, who admonished him in strong but friendly terms, to avoid giving all future occasion to the "mumbling" and "murmuring" which pervaded the realm, upon the innovations which Wolsey had commenced.*

Undismayed by these checks, Wolsey proceeded to the application of the funds which the dissolution of the monasteries supplied. In 1525, the monastery of Saint Frideswide was despoiled of its revenues and endowments, its once flourishing community dispersed, and its buildings in part appropriated to the formation of a "College of secular priests," as Wolsey at first intended to designate his infant establishment. With systematic care, the Cardinal had already prepared students for his projected college, in his native town, at Ipswich, where, two years before, he had founded a school. In this tribute of gratitude to his birth-place, Wolsey had received great assistance. The magistrates of the town had wisely resigned the property vested in their hands for the maintenance of an ancient school to the Cardinal, whose power of appropriating them efficiently they knew to be superior to their own;† he was afterwards enabled also to add the revenues of twenty-four small monasteries to the means already stated. The regulations of the school he took also under his own charge, and framed them upon the model of those adopted at St. Paul's, by the excellent Colet. He even published, by his authority, a grammar, for the use of his Ipswich scholars, with a preface composed by himself,—the only effort of his pen in matters not connected with state affairs, or private business. But the grammar-school of Ipswich, being solely of local importance, survived not the hand by which it was founded; and this short-lived institution sunk, with Wolsey, into neglect and oblivion. The circumstance of its erection affords a pleasing proof of Wolsey's attachment to the

* Wood's History of Oxford, edited by Gutch, vol. iii. p. 417, dissertation 6.

† Galt's Wolsey, p. 208.

scene of his childhood ; and, if it be true that the insignia of a butcher's trade were carved upon one of its portals,* it furnishes evidence, not only of Wolsey's actual origin, but of the far more important fact, that he was superior to the littleness of remembering that origin with shame.

The magnificent institution of the cardinal at Oxford has obtained a more lasting celebrity than his inferior but equally meritorious design. Retained to us in the present day in the imposing structure of Christ Church College, this establishment sustained, in its infancy, curious and even threatening vicissitudes. In March, 1525, Wolsey laid the first stone, on the site of the former monastery of Saint Frideswide, the ceremony being solemnized by a sermon from Longland, Bishop of Lincoln, and enlivened by a sumptuous entertainment. The stone for the building was procured from quarries in the vicinity of Oxford ; yet such was the extent and solidity of the masonry, that the expenses consumed in it amounted in one year to eight thousand pounds, a very considerable sum in those days. The church was adorned by Wolsey with a steeple, and a fine roof over the choir ; but part of the edifice was taken down, in order to afford space for the erection of the choir. The endowment of the college with a dean, canons, and professors, was planned with liberality, and with a judicious attention to the real interests of religion and of learning. But Wolsey was not permitted to complete an undertaking which reflects the brightest lustre upon his prosperity. In his subsequent misfortunes, anxiety for his infant college, and concern for the deserted state into which it fell, formed one of the most painful sources of his frequent reflection. Henry eventually re- stored it ; but monopolized to himself the glory of its existence, by assigning to it the name of King Henry the Eighth's College. It was, for various reasons, endowed, in 1545, by the appellation by which it is now designated.

It affords a curious and instructive picture of the mind of Wolsey, to turn to the varying occupations in which he was engaged, even while he was called upon to effect that great change in the character of the country at large, produced by the dissolution of the mo-

nasteries. The people beheld him with astonishment descend to the direction of the royal children in the minutest particulars ; and devote his energies alike to the regulation of a household and of a nation. The Duke of Richmond, the natural son of Henry the Eighth, and the Princess Mary, presumptive heiress to the crown, were alike intrusted to the charge and superintendence of the Cardinal. On the duke, who was his god-child, Wolsey bestowed sedulous and judicious attention, which was repaid by the merits and early proficiency of the young nobleman. With a careful hand Wolsey framed 1525, 1526. the household of Richmond, as soon as his godson had attained the age of six years : the regulations by which the miniature court was governed were dictated by the judgment, and subscribed in the handwriting of the Cardinal.* In a manner nearly similar, Wolsey arranged the establishment of the Princess Mary, and lent his great understanding to determine whether or not the princess should have " spice plates and dishes of silver ;" and if a " trumpet and rebeks" were to be permitted for the solace of the young lady, or rather of her attendants.† Undaunted by the sneers of those who forget the importance of trifling details in the sum of human happiness, Wolsey next undertook the weary task of effecting a reformation in the ill-arranged and ill-governed household of the king. The particular abuses which he had to correct, are enumerated in a document entitled the " Statutes of Eltham ;"‡ and they afford an amusing picture of the peculiarities of Henry, and of the manners of his court. The correcting hand of Wolsey was, of course, unwelcome, and unpopular ; and, as is customary in the operations of a domestic revolution, the most arduous offices were the least approved. Among the numerous, indolent, and self-willed dependents, whom it was the duty of the Cardinal to eject from the service of his royal master, many enemies were added to those by whom Wolsey was already abundantly assailed.

The Palace of Hampton, nearly completed by Wolsey in the preceding year, was now presented by him to the king, the most splendid gift ever proffered

* Harleian MSS. in the British Museum, 589, 192.

† Ellis's Original Letters, vol. i., p. 274.

by any English subject to his sovereign. Wolsey, by this act, sought to evade the attacks of the envious and insidious courtiers, to whose snares he was exposed; but his discretion, in this instance, availed little. Henry, touched by the generosity of the Cardinal, gave him, in return, the ancient manor of Richmond, a favourite residence with the English kings, and especially with Henry the Seventh, by whose command its appellation was changed from Sheen to Richmond, in compliment to his title as Earl of Richmond in Yorkshire.* In this agreeable abode Wolsey kept his Christmas, in a manner far superior in splendour to the royal court, which was held at Eltham privately, on account of the sweating sickness. It was at once irritating to the nobles, and to the populace, to see the "butcher's dog," as they contumaciously expressed it, living in a royal residence. The unpopularity of Wolsey was, indeed, general. Already had they resented with bitterness the attempt made by the king, and attributed to the Cardinal, to raise a sum of money from the nation under the form of "a benevolence." The prohibition of games of chance increased the public irritation. A less judicious act of authority inflamed the passions of the people to the highest degree, whilst it proved that Wolsey possessed not that command over his own temper which it should be peculiarly the endeavour of a lawgiver or a ruler to acquire. In a play, or, as it was then termed, "a disguising," enacted by the young lawyers of Gray's Inn, a plot was introduced reflecting apparently upon the existing state of public affairs. The piece had, however, been written twenty years before the performance, and it might have been applied, from the general nature of the characters, by any minister in any times. Wolsey thought otherwise, and attributed the invention of this drama to hatred against himself. Under pretext that the king was highly offended with the piece, he committed John Roo, the author, to the Fleet Prison, and deprived him of his office of serjeant at law. The young performers were severely reprimanded, and one of them, who had figured as the principal hero of the piece, was threatened with imprisonment. Popular, and ill-suppressed murmurs followed this arbitrary measure. "He who grudges every man his plea-

sure," said the people, "spares not his own."

Events soon occurred, which afforded ample encouragement for expressions of a still more decided nature. A singular revolution had been for some time working in the affections and opinions of Henry the Eighth. He who, in the commencement of his reign, had deemed the decisions of the pope inferior only to those of heaven, and had recently upheld the papal power in his controversy with Luther; he, who had hitherto afforded to his subjects an example of conjugal felicity, began now both to question the authority of the pope, and to entertain the intention of repudiating his wife. When this change first began to operate on the mind of Henry; by whom or in what it was originated, and what share Wolsey had in effecting it, are points which have been variously stated by historians. It appears evident, that whatever may have been the sentiments of the Cardinal respecting the divorce, love, and not the counsels of the minister, suggested that measure to the ardent monarch. It is also undoubted that Wolsey viewed with chagrin and alarm the ascendancy which the beautiful and accomplished Anne Boleyn had now acquired over the affections of the king. Before the temptations of ambition had weaned her from tenderer and more natural emotions, Anne had experienced the bitterness of disappointment in that "course of true love" which is said never to "run smooth." nor to return a second time to the channel of our affections. She occupied the place of maid of honour to Queen Katharine, while the young Lord Percy, son and heir of the Earl of Northumberland, attended in the household of Wolsey, for the purpose of instruction, among other youths of birth and fortune, who have been already described as a part of the Cardinal's establishment. It was the business of Lord Percy to await the pleasure of the Cardinal at court, where the hours of idleness and attendance were passed by him in Queen Katharine's chamber in pastime with the attractive, and, at that time, light-hearted Anne Boleyn. This casual circumstance had a considerable influence on the destiny of Wolsey; so wonderfully do the most trifling occurrences operate on great events. A mutual understanding soon took place between these two young and thoughtless persons, who were destined to experience the folly of cherishing schemes

of domestic happiness in courts. Their attachment was soon perceived, and was highly displeasing to the king, who, hastening to Wolsey, entreated him to frustrate the projected engagement, revealing, at the same time, his own secret partiality for the fair mistress of Lord Percy. Wolsey, in consternation at this discovery, was yet too well acquainted with the character of Henry, to hesitate complying with his commands. The lovers' vows were, at his interference, and upon the interdiction of the Earl of Northumberland, irrevocably cancelled, and the hero of the adventure constrained to enter into a contract of marriage with a woman whom he loved not. Anne never forgave the Cardinal for his part in this affair, and, upon her return to court after a temporary retirement, became his determined though not avowed enemy.

Those courtiers and privy councillors who beheld with satisfaction the predilection of the king for Anne Boleyn, formed a party against Wolsey, who fell the victim of their machinations. To remove him from the presence of the king became the object of Wolsey's enemies; and a favourable opportunity for the execution of this design was furnished by the singular crisis which had recently taken place in the affairs of Europe.

The balance of power, long supposed by Henry the Eighth to owe its conservation to his own political skill and influence, began now to lean to the side of the emperor. Francis the First, lately released from a degrading imprisonment; the pope Clement the Seventh still a captive in the castle of Saint Angelo; and Henry, impoverished by the bad management of his financial concerns, offered but a feeble opposition to the power of Charles. To negotiate personally with the king of France was the task now intrusted to the Cardinal, whose abilities and accustomed grandeur rendered him an efficient and an imposing representative of his sovereign. Accordingly, when the splendid preparations which he deemed necessary were completed, Wolsey set out, on the 3rd of June, 1527, with a procession similar in its arrangement but superior in numbers and in magnificence to the train with which he usually journeyed. In his way to Canterbury he rested either at the houses of the nobility, or at the larger abbeys; for in those days inns were both rare, and unfit for the recep-

tion of guests of the higher classes; farm-houses, convents, and the mansions of the great supplied the place of those establishments which are now indispensable to the traveller; and however the independence of the visitant might be compromised by the obligation received, his comforts were probably ensured by the substitute. At Canterbury the Cardinal was lodged in the abbey of Christ Church, where he waited for three or four days, in order to celebrate the festival of St. Thomas, the patron saint of the abbey. Here Wolsey signalized his devotion to the imprisoned pope, by commanding that the litany, sung on the feast day, should contain an appeal to the Virgin in favour of Clement. Kneeling at the door of the choir, the monks and choristers standing in solemn array in the body of the abbey, Wolsey was observed to shed tears of pious grief, on account of the captive pontiff to whose honours he had but recently aspired. May we not conjecture that some mournful presentiment, some sad misgivings with respect to his own reverse of fortune, might mingle with that sorrow which was attributed, by the spectators, only to compassion for another?

After a fatiguing passage, Wolsey reached Calais, which he entered in solemn procession, first performing his devotions in the portal of the Lantern gate, before he entered the town. Here he rested some days, from indisposition; but, after all his train and carriages were landed, pursued his journey towards Boulogne, first addressing his attendants on the propriety of caution in their intercourse with the French nation; towards whom strong national distrust was harboured even by the experienced and liberal Wolsey.* After this exhortation, he proceeded to Boulogne, and thence to Montreuil and Abbeville; honoured, on his passage through those towns, with processions and pageants, which he repaid as he went, by proclaiming certain days of freedom for sins, a mode of remission on which even intelligent and devout men were disposed, at that time, to rely. Wolsey was empowered by Francis to distribute temporal forgiveness to the offenders confined in the prisons of the various towns through which he passed; a privilege hitherto vested solely in the monarch, who usually exercised it during his progresses.†

From Abbeville, Wolsey travelled onwards to meet Francis, and crossing the river Somme, he rested for a short time at the castle of Picquigny. From this romantic abode, which was thought, by his English followers, to resemble Windsor, Wolsey hastened towards Amiens, and meeting Francis near that city, he and the king entered it together, "making," as Cavendish, who was an eye-witness, observed, "such wonderful cheer one to another, as if they had been of an old acquaintance." At Amiens, Francis and Wolsey remained for a fortnight, which they spent in banqueting and in consulting; concluding the more serious part of their occupations with a compact, solemnly implied in the mutual participation of the sacrament, between the king of France, and Wolsey, on the part of the king of England. At Compiègne, whither they afterwards repaired, a still closer intimacy was formed between the French king and the English minister; but Wolsey was too much of a veteran in politics to allow his courtesy to interfere with the interests of his embassy. The chancellor of France, having on some occasion offended him, Wolsey gave way to a paroxysm of anger, which it required all the address of Louise, the mother of Francis, to allay. By this manœuvre the Cardinal gained some concession in the negotiation which had hitherto been withholden, and he established his ascendancy over the French council, whom Cavendish describes as "having their heads under his girdle."

After witnessing, among other diversions, that of a boar-hunt, a novel scene to the Englishmen, Wolsey prepared to return, wearied with these courtly revels, and disgusted with the knavery and ridicule of the French, who both insulted him with derision, and robbed him of plate and furniture. At home, mortification of a more serious nature awaited him, and he experienced a cold reception from the king, whom he joined at the house of Sir Henry Wyatt, in Kent; nevertheless he remained for some days with the court, and then adjourned to his own mansion, at Whitehall. Shortly afterwards he resumed the trust of the great seal, which had been assigned by letters-patent to the guardianship of Doctor Taylor, master of the rolls, during the absence of Wolsey; the laws of England not permitting that this important instrument should be carried without the seal

great law officers being held in the Star Chamber, Wolsey unfolded the result of his late mission, and announced the approaching arrival of a grand embassy from France. In this harangue the Cardinal boasted of the benefits which would accrue from the alliance about to be concluded between France and England: he extolled the splendour of the embassy which should complete this important measure: unhappily, the distinguished persons of whom it was composed, were decreed by chance to behold his ruin.

Early in October, the metropolis was enlivened by the arrival of five French noblemen, among whom was Du Bellay, bishop of Bayonne, a man of lively observation, and to whose letters, published by Le Grand, we are indebted for many interesting particulars of the strange scenes which he witnessed during the continuance of his mission. For some time after the appearance of the ambassadors no symptoms appeared of the alienation which Henry afterwards displayed towards his minister. On the conclusion of a treaty of peace between the two states, the Cardinal celebrated mass in presence of the king, of the foreign noblemen, and of an assemblage of the chief persons of rank or power at the English court. The king, after his usual custom, rode home to dinner with the cardinal, and even arranged that Wolsey should provide a banquet at Hampton Court, to regale him and the ambassadors, after hunting the next day in the royal park at Richmond. All was now bustle and preparation in the household of Wolsey. The caterers and purveyors procured the finest viands they could get for "money or friendship, among mylord's friends.*" The cooks wrought both day and night; the yeomen of the chambers were busied in hanging the apartments of the stately edifice with costly draperies, and in furnishing them with silken beds. There was carriage and re-carriage of plate; for the fashion of having cupboards or sideboards with several compartments, in the banquetting room, required a rich and often inconvenient display of that costly article, then doubly precious from its recent introduction. The splendour of the scene was made wholly visible by two immense candlesticks of silver, valued at three hundred marks each, holding torches, the light of which was

* See Cavendish.

reflected by large plates of silver gilt. The viands and the wines equalled the decorations in richness and excellence ; and the tenour of the entertainment was, to all appearance, such as to satisfy the most fastidious guests, and the most anxious and punctilious host. Yet while some envied and all admired the magnificence of the Cardinal, secret and corroding care filled his breast,—for the king danced with Anne Boleyn ; and it was on this occasion that Du Bellay observed that public attention was first riveted upon the passion which Henry could not conceal, and which Wolsey could not but dread. . It was not long before the unfortunate minister received a full confirmation of all his fears ; and the embarrassing question of the divorce was explicitly unfolded to him by the king. Long and earnest were the entreaties and arguments which Wolsey urged, to dissuade him from the project of paving the way to his marriage with Anne, by a divorce from the virtuous and respected Katharine, whose infirmities of constitution, and decline in personal charms, had far more influence in deciding her consort to adopt this measure, than the plausible, but equivocal plea of conscientious scruples concerning the validity of his marriage.

The conduct of Wolsey throughout the whole affair of the divorce has been variously represented ; but little can be pronounced with certainty upon his real opinions and motives. When the peculiar circumstances to which he was obliged to yield are considered, and the character of the monarch whom it was certain ruin to displease, is recollected, it is probable that, in the first stage of the business, the divorce was approved by Wolsey, and that his actions may have been influenced by enmity to the Emperor Charles, the nephew of the Queen, and his devotion to the interests of Francis, who desired an union between the Princess Renée, his sister-in-law, and the King of England. The most partial admirers of Wolsey cannot represent him with justice as a man rendered inaccessible, by a high sense of honour, to considerations of personal interest, or even of personal feelings. When the dispositions of Henry in the affair were developed, and when Wolsey found, that, instead of strengthening his foreign connexions, he was assisting in the elevation of a domestic enemy, he was seized with consternation, and endeavoured, too late, to recede. He could not fail to

perceive what was obvious to a less interested observer, that whichever way the question terminated, it would involve his ruin.* Anne, whether raised triumphant to the throne, or dejected by defeat, would still remain his enemy ; and Wolsey, who affirmed of the king that “ he could never persuade him from his will and appetite,” knew well the effects of female influence upon that susceptible, yet brutal monarch.

From this time the fate of Wolsey was decided, as far as it is permitted to human agents to determine the lot of a fellow-mortal. He sought, indeed, to avert the coming storm, and to throw all responsibility from his own shoulders, by an appeal to the English and foreign universities concerning the validity of the divorce ; and he persuaded Henry to demand the opinions of the bishops on the momentous question. Unfortunately for Wolsey, each of these applications to clerical subserviency was favourable to the divorce ; and Henry, emboldened by this partial success, rested not until he had obtained from Clement the Seventh a bull, empowering Cardinal Campeggio and Wolsey to hold a legatine court, in which the cause nearest his heart might be heard, and determined. The result of this proceeding hastened the ruin of Wolsey, and his conduct in the matter was never cordially forgiven by Henry. Averse, as a zealous, though liberal Catholic, from a process which impugned the validity of the papal dispensation, which at no very distant period had permitted Henry and Katharine to marry, Wolsey felt the strongest inclination to defer, or to decline the decision required from him and Campeggio ; and at the close of the memorable and singular trial, he evinced the same disposition in which the validity of the marriage was argued. It was the lot of Wolsey to be obnoxious to both the parties by which the court and country were at this time divided. The partisans of Anne were his most powerful enemies ; but the advocates of Queen Katharine's cause were equally clamorous against him. Harassed and perplexed, he endeavoured to justify himself, through the king, from any participation in the first suggestion of the divorce, which report ascribed to his counsels, conveyed, it was affirmed, to the king's ear by his intimate friend, Longland, the royal confessor. The solemn asseveration of Henry, before the legatine court, that Wolsey

was guiltless of the unpopular measure, received little credence. Katharine, whom it was the office of Wolsey and his colleague to visit and to conciliate, expressed with the ingenuous warmth of a fearless and exalted mind, her unshaken conviction of his secret enmity, and of its fatal effects. Yet, if this accusation were just, the conduct of the Cardinal when he had the whole affair of the divorce in his own hands, is incomprehensible. Instead of hastening the conclusion of a measure of which he was himself supposed to be the first originator, he deferred the decision of the king's appeal from day to day, until the impetuous temper of Henry could no longer brook delays which he deemed unnecessary. The vacillation with which for the first time the Cardinal acted, is wholly unaccountable, except upon the supposition of some secret change in his private sentiments upon the point in agitation. Distracted and bewildered, he betrayed a lamentable deficiency of that manly resolution, so characteristic of his nature, which might have availed something even with Henry, and which would have redeemed him from the utter degradation that attended his fall. The unhappy Wolsey now experienced the bitterness of a servitude in which opinion at least, if not conscience, is at variance with interest. Well might he afterwards regret, with the bitterness of an unavailing, because a late repentance, that his days had been devoted to an earthly, rather than a heavenly Master. Well might he condemn the vanity of human desires, when he reflected on the peaceful tenour of a life, unruffled by the turmoils of ambition, free from those shackles which the lust of power forges, and passed in rendering, as offerings to heaven, works of active benevolence to man.

Formed by nature for a nobler sphere than the court of a capricious and pampered tyrant, the spirits of Wolsey began to sink under the accumulated annoyance inflicted by the ill-suppressed triumph of insolent enemies, and the indulged fury of the king. At the close of the court one day, Henry sent for him to his residence at Bridewell, and he remained in the private apartments of his sovereign for more than an hour. At the end of that time the Cardinal entered his barge at Black-Friars, and went to his own palace at Westminster. The Bishop of Carlisle, who was with him in the boat, remarked that "it was

sey, "and if you had been as much chafed as I have been within this hour, you would indeed say it were very hot." Upon entering York House, the Cardinal hurried to bed, but was not long permitted to enjoy repose, for the Earl of Wiltshire was obliged soon to rouse him, with a message from the king, requiring the immediate interposition of Wolsey and his colleague, with the queen, who was then at the royal abode. Fatigued and harassed as he was, the Cardinal could not delay complying with this order, and accordingly returned to Bridewell, where he had to encounter the resentful demeanour of the queen; and this day of anxiety and mortification was terminated by another interview with Henry, to whom he could communicate nothing but the inveterate determination of Katharine against yielding to her fate.*

These occurrences were succeeded by a quarrel between Wolsey and Brandon, Duke of Suffolk, the intimate associate of the king. It was a plain intimation of the temper of Henry, when Brandon, an experienced and dexterous courtier, ventured to attack the minister, once so formidable, and once his friend, to whom he many times had owed kind offices of mediation with the king. The enemies of Wolsey were becoming daily more numerous and confident, when Henry prepared to set out on his summer progress, accompanied by Anne Boleyn, and breathing all the violence of his furious nature against the two legates. His indignation was excited to the utmost by the adjournment of the legatine court until Bartholomew-tide, a measure adopted by the two legates, in order to avoid the necessity of a decision, but under the pretext of a similar regulation in the courts at Rome.

Campeggio, weary of his office, and anxious to return to Rome, determined to leave the conclusion of this tedious process to other hands; and finding that the mission of Stephens, the king's secretary, who had been sent to Rome to obtain from the pope authority to pronounce judgment, had been fruitless, he resolved to follow the king on his journey, in order to signify his departure, and to take his leave. He was joined in this excursion by Wolsey, and the Cardinal, on this occasion, beheld for the last time, the monarch over whose mind he had exercised, for many years, an influence unparalleled, and

almost absolute: His ruin appears to have been generally expected before the final explosion of the king's anger; for, on the arrival of the two cardinals at Grafton, in Northamptonshire, where the court rested, there arose, as Cavendish avers, "divers opinions that the king would not speak with the lord cardinal, and thereupon were laid many great wagers." On reaching the entrance of the court, Campeggio was immediately conducted to an apartment prepared for him, and Wolsey, after having accompanied his colleague to his chamber, expected to be led to his own, but he was struck with dismay on hearing that no orders for his accommodation had been issued. In this dilemma, the courtesy of Sir Henry Norris, a young and favoured attendant of the king, relieved, in some degree, the perplexity of the Cardinal. Norris, who was afterwards executed upon a charge of supposed criminality with Anne Boleyn, evinced, in this instance, a delicacy and kindness of feeling which proved him deserving of a less tyrannical master, and of a happier fate. Affecting to ascribe the manifest neglect of the Cardinal to the limited establishment of the king's present residence, the knight begged that Wolsey would accept his own apartment, an offer which the dejected favourite accepted with gratitude, and, while he changed his riding apparel, gained from Norris such details of the king's expressions towards him of anger and alienation as were current about the court. Thus warned, Wolsey was the better prepared to enter upon his defence, if opportunity should be allowed, in a place where he had few friends to intercede, even for the poor privilege of being heard before condemnation. Affairs seemed, however, for a short time, to change their aspect. Wolsey, to the discomfiture of those who had stakes depending on a contrary result, was bidden to the royal presence; and was admitted with Campeggio to the chamber where the lords of council were in waiting for the king. Henry, on his entrance, either acted with a degree of feeling unusual to him, or he was softened by the presence of the man whose talents had long lent a charm to his social hours, and whose counsels had exalted the glory of England in foreign lands. He received Wolsey courteously, and even kindly; raised him from his kneeling posture, and leading him by the hand to the recess of a window, conversed with him

long and earnestly. The explanation which then took place was favourable, as far as the attentive Cavendish could gather the discourse, to the restoration of Wolsey's favour; yet this temporary sunshine was soon obscured by the fascinations of Anne Boleyn, with whom the king dined that day. Whilst she, the idol of his passing affections, was undermining the fortunes of the Cardinal with her princely lover, the Duke of Norfolk, her uncle, could not suppress his exultations over the unhappy Wolsey, at dinner, and even threw out the alarming insinuation that it was the intention of the king to send Wolsey to his diocese of York, which he had never yet visited.

Thus assailed on all sides, Wolsey prepared to depart. His enemies had prevailed; and when he took leave, on the following day, in order to accompany Campeggio to London, the separation between him and the king was final. Wolsey had slept during the night at Euston, and on rejoining the court early in the morning, he found Henry accoutred for a sylvan excursion with Anne Boleyn, who had prepared a repast for the king in a neighbouring park, in order to prevent any subsequent interview between him and his former favourite.

In this hasty manner did these two men, long associated in the various pursuits of their several stations, bid each other a last farewell. Henry, in the company of his mistress, passed the day, it is to be presumed, with a careless gaiety, very different from the sad frame of mind in which Wolsey retraced his steps towards London. At the monastery of Saint Alban's, he parted from Campeggio, who, happier, though less distinguished than his colleague, journeyed in safety to his native land, after a slight disturbance of his progress, occasioned by the groundless suspicions of Henry, that Wolsey had transmitted, through Campeggio, the means of provision for himself in case of his escape to foreign lands. Wolsey had not, apparently, harboured any such intention. He returned to York House, and, on the commencement of the Michaelmas term, took his accustomed place, for one day, in the Court of Chancery, and exercised his high functions with his wonted parade. After this day he never sat there more. The ensuing morning he remained at home to receive the Dukes of Norfolk and Suffolk, the object of whose visit was

to demand from him the great seal. At the same time it was intimated that the king commanded him to leave York House, and to take up his abode at Esher, a residence appertaining to the bishopric of Winchester, and situated in the well known and beautiful vicinage of Hampton Court. Wolsey, with singular calmness, requested to know by what authority the two noblemen acted; they replied by that of the king. The Cardinal then protested against obedience to a verbal order, and refused to give up his office without the formality of letters-patent from the king, from whom he had received the seal. In vain the two dukes urged compliance with their orders; they were constrained to return to Windsor, and to bring with them, on the following day, the letters with the royal signature. These documents having been perused by Wolsey, with every appearance of respect and submission, he yielded to his fate, and resigned into the hands of the noble messengers the insignia of his high office. The dukes then left him, and Wolsey prepared to leave York House, and to take a last survey of the costly furniture with which his lavish hands had supplied the princely abode. How must the entire vanity of human grandeur have struck his mind when he looked around upon the decorations of his stately mansion,—the spacious gallery, occupied by various tables, on which were deposited large pieces of silk stuffs, of velvets, and of satins, the rich hoards of the Cardinal for future use;—the store of one thousand pieces of Holland cloth,—hangings along the walls of the gallery, cloths of gold and of silver, and precious tissues of various kinds:—sumptuous copes, intended for the clergy of his colleges at Oxford and at Ipswich, provided at his private expense;—in the adjoining chambers, long tables, laden with massive plate, both silver and gold, which was valuable and uncommon at a period when the use of pewter vessels, even in the households of the great, was scarcely abandoned! After a minute inspection of his property, Wolsey caused it to be carefully arranged, and the several articles to be entered in an inventory, which is still preserved among the Harleian collection of manuscripts in the British Museum. By this enumeration of his goods, and by collecting even those which were broken or spoiled, Wolsey probably hoped to conciliate his rapacious mas-

ter, in evincing his submissive devotion to his will. He next allotted to each officer of the household his respective charge, and leaving strict injunctions that each portion of the spoils should be delivered to those who were empowered to receive it on the part of the king, he departed from York House. His last action in this scene of his former greatness, evinced how unsubdued was his proud spirit, by that reverse of fortune which afterwards bowed it to the dust. When he intrusted to Sir William Gascoigne, his treasurer, the superintendence of the forfeited property, the knight ventured to condole with him on the prospect of his being sent to the Tower, a fate which public report had already assigned to the Cardinal. For this surmise, Gascoigne received from Wolsey a sharp rebuke. "Is this," said he, "the good comfort and counsel that ye give your master in adversity? It has always been your natural inclination to be very light of credit, and much lighter in reporting false news. Go your way, and give good attendance unto your charge, that nothing be embezzled."

The Cardinal, attended by a selected number of his servants, now set out on his way to Esher, and entering his barge, at his private stairs, was rowed to Putney, where his mule, and the horses of his attendants, awaited him. Scarcely had he begun his journey, when his heart was gladdened by the approach of Sir Henry Norris, who hailed him with the glad tidings that "the king commanded his grace to be of good cheer;" and assured him that he "was in as much favour as he had ever been." With these encouraging words, Sir Henry delivered to Wolsey a ring, which had long served as a token between him and the king upon particular occasions. The surprise and delight with which Wolsey received these indications of mercy were promptly expressed in his gestures. Alighting from his mule, he prostrated himself on the earth, holding up his hands to heaven in joy and gratitude. The courteous Norris was lost for some minutes in thought and wonder, at the abasement of one whom he had seen the idol of courts and of princes. Placing himself also on his knees, by the side of Wolsey, he besought him to give credence to his message. Wolsey, overwhelmed with his emotions, could reply only by reiterated expressions of thankfulness to

God and the king ; but it is to be feared that feelings of earthly ambition had the predominating influence over his mind. On parting, he gave to Norris, as a token of his friendship, a piece of the holy cross, commonly worn by the Cardinal around his neck. To the king he sent many messages of devotion ; and recollecting, after taking leave of Norris, that Henry prized a favourite fool whom he had in his service, he recalled the knight, and bade the menial accompany him to the king ; but the poor fool, preferring the service of his old master, could with difficulty be forced from the retinue ; and the Cardinal had some thoughts of sending six of his stoutest yeomen to enforce the obedience of the attached and perhaps humoured individual.*

Wolsey now proceeded to Esher, where he remained for some weeks in a state of anxiety and of privation which afforded a melancholy contrast to his former splendour. An information had been exhibited against him, in the king's bench, by Hales, the attorney-general, purporting, that, notwithstanding the statute of Richard the Second against procuring bulls from Rome, he had procured bulls for his legatine power, which he had for some years executed. This charge had even been preferred at the commencement of Michaelmas term, before the last appearance of the Cardinal in chancery. Wolsey, through his attorneys, confessed its justice, as far as regarded the procuring of bulls, but denied that the procedure was contrary to the statute, or prejudicial to the honour and interests of the king : he was, however, declared by the court to be out of the protection of the king ; his lands and goods to be forfeited to the crown, and his person to be liable to seizure. The people,† although generally unfavourable to Wolsey, regarded this sentence as harsh and unjust. The Cardinal had exercised his legatine jurisdiction with the countenance of the king, and had never been questioned as to its legality. His services to the crown were not wholly obliterated from the public recollection, and he, who had been the object of envy, now became that of compassion. Deprived of all his personal property, the state of penury to which he was reduced seemed scandalous to the high station which he still occupied as Cardinal, and as

the nominal Archbishop of York. His household, as Cavendish, who was still a member of it, relates, was destitute of beds, linen, cups, dishes, and plate, which they were obliged to borrow from Sir Thomas Arundell and the Bishop of Carlisle. This sudden reduction of the Cardinal's fortunes was not solely the effect of caprice and violence on the part of Henry, who inherited much of the grasping disposition of his father, and was determined to obtain possession of York House, the inspection of which had probably sharpened his appetite for the plunder of the Cardinal's effects. After a private negotiation with Wolsey, this point was conceded ; and the splendid palace, which would have reverted to the church as an appendage to the see of York, was secured, by this piece of management, to the king, on the condition, that it should, on his death, be returned to the successor of Wolsey in the archbishopric. The effects of the Cardinal's submission were soon apparent. On the twenty-first of November he received the king's pardon, and was reinstated in the sees of York and Winchester. At the same time a number of his horses and mules were restored to him, and three thousand pounds in money.* These, with other articles, amounted altogether to six thousand, three hundred, and seventy-four pounds, which was all the wreck of his immense property that Wolsey ever received, after it had fallen into the hands of his rapacious master.

The indications of a relenting spirit on the part of the king towards Wolsey, were viewed with some alarm by the enemies of the Cardinal, who feared him more in adversity than in prosperity ; for they knew how keen would be his vengeance, if he ever were reinstated in his former greatness. By their representations, the offences of Wolsey were magnified in the eyes of Henry, until the mind of that monarch was worked up to a determination to complete the ruin of his former favourite. By a council of nobles, assembled in the Star Chamber, it was resolved to refer the case of Wolsey to parliament ; a bill was accordingly prepared, attainting Wolsey of high treason, and it passed through the house of lords. The articles contained in this bill were forty-four in

* Cavendish, p. 257. † Herbert, p. 292.

* Rymer's *Fœdera*, vol. xiv., p. 375. The horses and their furniture were valued at one pound seventeen shillings each.

number, and related chiefly to the abuses of the Cardinal's legatine authority. In some clauses of the bill he is charged with an usurpation of the royal jurisdiction, and with presumption in assuming the royal style in his dispatches to foreign courts. He is attacked, also, on the score of fraudulent and unjust transactions with the clergy; with the illegal suppression of monastic houses containing more persons than were specified in the bulls which he had received from Rome; and with the sin of having slandered many virtuous members of the conventual establishments. The diminution of hospitality and charity were also imputed as crimes to Wolsey, as well as other improprieties connected with the dissolution of monasteries. With regard to these charges, it must be recollected, that the measures adopted by the Cardinal were in most instances known and sanctioned by the king. The fraud and extortion of which he was accused cannot be considered as proved, because he was never allowed to answer the charges brought against him. The acts of oppression which he was said to have authorized in his transactions with the monastic orders, were trifling, compared with those afterwards committed by Cromwell and his agents in the work of suppression, and which were even encouraged by the king, whose avarice evidently increased with his years. This fact throws an air of injustice over the attainder, and confirms the opinion of Lord Herbert, that no man, who fell from a high station, had fewer crimes attributed to him on reasonable grounds. There is something almost ridiculous in the passages of this famous bill, which tax Wolsey with "consuming too much time with a fair tale in the council;" with "allowing no opposition," but "overwhelming it with his accustomable words, so that the members were better hold their peace than speak," for "he would have all the words to himself." Several other articles must have appeared equally puerile to those who were not burning with envy, or trembling with fear of the once pompous ruler of the council. Nor can posterity assent to the justice of the imputation which affixes to Wolsey the character of an "impeacher and disturber of due and direct correction of heresies," from his having prohibited the exertions of two bishops in their projected interference with a party of Lutheran students in Cambridge. The

subsequent conduct of Henry vindicates the Cardinal also from the charge of having "greatly overshadowed, for a long season, the king's honour, and of having subverted the due course and order of the laws, to the undoing of a great number of the people."* When the administration of Wolsey ceased, the glory of Henry expired. All that was elevated in the character of this monarch seemed to have been banished with the minister. The spirit of improvement languished at home; the estimation of the English nation at foreign courts declined. The passions of the king actuated his counsels, and caused the oppression and slaughter of his people. The persecutions of his later years had received no sanction from the previous example of Wolsey. The burning of heretics, although frequent at this time in the diocese of Canterbury, had never been recorded within the ample limits of Wolsey's ecclesiastical jurisdiction. The immoral tendency of his example may be questioned, as far as it affected the king. During the ministry of Wolsey, Henry, for nearly eighteen years, remained contented with one wife, if not constant to her during the whole of that period; and the violent indulgence of his passions during his later years attests that some restraining hand must have curbed them in the more dangerous season of youth. The change which was so evident after Wolsey's fall, both in the character and administration of Henry, sufficiently exculpate the Cardinal from having diminished the reputation of his sovereign.

Sentiments of this nature may perhaps have actuated the members of the parliament, upon the introduction of the bill of attainder into that assembly. Before any decisive step was taken, the cause of Wolsey was effectually espoused by Thomas Cromwell, an individual hitherto of humble fortunes, who resided under his roof in the capacity of secretary. This office, which had been held by the celebrated Sir Thomas More, the successor of Wolsey as chancellor, and by Gardiner, his successor in the see of Winchester, was in all three instances the stepping-stone to preferments apparently little expected by any one of these eminent men. More seems not to have cherished very favourable sentiments towards Wolsey. Gardiner was too sedulously bent upon his

* Herbert, p. 302.

own elevation, to extend any assistance towards a sinking benefactor; Cromwell, alone, though possessed of as much ambition as either of his former associates, evinced a degree of constancy towards his benefactor deserving of peculiar commendation, when it is recollected how arbitrary a monarch he had to serve. On being informed of the danger which threatened his patron, he hastened to London, and taking the seat of a friend, in the house of commons, defended Wolsey with so much energy and discretion, that the bill of attainder was flung out. It is in favour of Wolsey's innocence, that the answers with which Cavendish influenced this assembly, were dictated by the Cardinal, who, from hour to hour, gave most precisely his instructions. Yet this suspension of misfortune was productive of little immediate consolation to Wolsey, whose situation, during his continuance at Esher, presents a scene of mortifying deprivation and distress. Already had he been reduced to one of the most humiliating extremities that could befall a man of his character, that of being indebted to his domestics. Their fidelity was manifested by their refusal to quit him, even when he had confessed his inability to repay their services with the usual stipends. In this emergency Cromwell suggested an expedient, of which he set the first example. He recommended that the chaplains of the Cardinal, whom he had provided with livings, should each contribute some portion of their funds to the discharge of the wages due to the inferior servants. This plan succeeded; each of the chaplains throwing into the common fund as much as his means allowed, and Cromwell giving the first five pounds. After an affecting address to his household, whom he could not behold without tears, Wolsey distributed a portion of their wages amongst them, and they repaired to the hall, when some determined to go home to their friends, others to remain until the fortunes of their master should be improved. But there seemed little prospect that the hopes of these faithful followers would be gratified. The spirits of Wolsey were alternately raised or depressed by cheering or humiliating messages from the court, and by acts of unexpected kindness or of wanton insult. His lively sense of the cruelty exercised against him was plainly shown in the letters which he addressed, about this

time, to Cromwell and to Gardiner whose good offices he humbly solicited. At length his health gave way under the pressure of mental anguish, and the king was informed of his declining state. By the royal command, Doctor Butts, a court physician, was sent to attend the Cardinal; and he declared his conviction that Wolsey would fall a victim to his disorder, if his distress of mind were not alleviated. Influenced by this opinion, the king and Anne Boleyn now endeavoured, by acts of kindness, to soothe the irritations of the man whom Henry had not wholly ceased to value. These flattering, but transitory, gleams of favour soon revived the drooping frame of Wolsey, and his recovery was accelerated by the renewed comforts of his habitation, some of his furniture and other property being added to that which had been already restored. Change of scene was also permitted; and, through the intercession of Cromwell, he was allowed to remove to the lodge in the king's park, at Richmond, where he remained for some time in great comfort, although with a small number of servants, suited to the size of the dwelling. This pleasant abode Wolsey quitted for one still more calm, and even better calculated to quiet the tumultuous passions which had long held sway in his breast. In the beginning of Lent he entered the monastery of Carthusian friars, and occupied a lodging which the pious founder of Saint Paul's school, Dean Colet, had formerly prepared for his own retreat from a world, even to the virtuous, unsatisfactory. From the apartment in which Wolsey abode, a gallery led into the church, where he repaired every afternoon to service; and often would he sit in his cell, seriously conversing with one or other of the brotherhood, who dissuaded him from fixing his affection on the vain glory of his former state, and recommended to him acts of penance and habits of contemplation, fitted to aid the awful preparation for another world, whither he was shortly summoned.

It had been for sometime determined that Wolsey should remove to his archbishopric, a plan to which he no longer felt any repugnance, for he was now hopeless of effecting any change in the disposition of the king towards him. All prospect of personal intercourse with Henry was at an end; for it was universally understood that he had

promised Anne Boleyn never to see him more.*

Through the exertions of Cromwell a thousand marks were with difficulty granted by the council, in advance, out of the revenues of Winchester, to defray the charge of his journey. The necessary arrangements being completed, he set out for York, in those days a formidable expedition; and it is observable, that he proceeded no farther on the first day than Hendon, in Middlesex, scarcely eight miles from London; and here he rested for a night in the monastery of Saint John. The rest of his journey was made with still greater deliberation; the Cardinal resting at different abbeys to perform the numerous ceremonies appointed for the remarkable days so frequently occurring in the calendar of the Roman Catholic church. The archiepiscopal palace was at this time under repair, and Wolsey was obliged to accept the loan of a prebend's house at Southwell, about four miles from Newark, where he remained until Whitsuntide. He now conducted himself in a manner becomng a high dignitary of the church, and worthy of a Christian. His demeanour was affable without familiarity, decorous but not rigid, and liberal without profusion. To the gentry of the country, who resorted in great number to his abode, he showed a dignified and courteous hospitality. To the poor, and to all the lower classes, he evinced a charitable concern for their interests, which was long remembered by them with gratitude. "He gave to bishops," says a contemporary writer, "a right good example how they might win men's hearts."† He enforced the custom, then by no means general, of preaching sermons to the people; and frequently rode on holy days from church to church, enjoining the inferior clergy to perform this duty. He said mass among the people, and afterwards exhibited the fulfilment of a vital principle of religion, by causing the priests to compose any differences which might happen to exist among their flocks. He even accomplished the difficult task of soothing feminine resentments; and reconciled several married persons who had long lived in disunion. He restored dilapidated churches

which had been applied to temporal purposes, and re-established the service of God in them. In these meritorious occupations Wolsey passed the period of his exile from the court, and doubtless, in the fulfilment of his duties, experienced a degree of calm enjoyment, to which he had hitherto been a stranger. While he joined with moderation in the social pleasures of the neighbourhood, he avoided, both from policy and a sense of propriety, such diversions as were likely to excite public animadversion, or to renew the displeasure of the king. Hence he resolutely withstood the temptations thrown in his path by the surrounding gentry to partake in the amusement of stag-hunting, to which he was extremely partial; and when he could escape it in no other manner, he avoided the allurements by a stratagem.* He now thought it expedient to leave Southwell, and to remain until Michaelmas at Scroby, another episcopal residence, whence he removed to Cawood castle, situated within seven miles of York. Both at Southwell and Scroby he left a reputation for wisdom, charity and piety, which won over to him his enemies in those districts, and caused him to be renowned as a benefactor.† At Cawood he began to make preparations for his installation into the archbishopric of York; a measure which unhappily accelerated his ruin, although it could not, with propriety, be deferred, consistently with the practice and ceremonials of the church. On this occasion, Wolsey displayed a prudent determination to avoid unnecessary parade and expense; and had not his scanty means been augmented by liberal donations from the neighbouring clergy and gentlemen, of oxen, sheep, wild-fowl, and other viands, but a poor provision would have been made for the installation feast. He was not, however, permitted to enjoy the manifestations of the respect which he had inspired in his diocese; and the very day that their well-meant offerings were deposited in his premises, he was destined to encounter the crisis of his misfortunes.

His ruin had long been decided, and his enemies only paused to consider in what mode, and at what moment, it could be most effectually completed. The popularity of the Cardinal in his

* Le Grand.

† Cavendish, p. 318. See note, from a book printed in 1536, and entitled, *A Remedy for Sedition*.

Cavendish, p. 359.

† Ib. p. 327.

northern diocese, and his intended installation, increased the dread with which his adversaries in the council still regarded him; and they plainly perceived that all affection for Wolsey had not been wholly extinguished in the bosom of Henry. It would be difficult to conceive in what manner the king could have been persuaded to a conduct so inconsistent as that which he now adopted. Already had the Cardinal been acquitted in parliament of the treasonable charges brought against him; and the king had since manifested his sense of the propriety of that decision, by acts of renewed kindness to the fallen minister, and by messages expressive of his favour; yet the capricious monarch now consented that the unfortunate Wolsey should be arrested for treason, and brought to London to stand his trial. By Wolsey this fresh calamity appears to have been wholly unexpected; and although the suspicions of his attendants had been in some degree roused by the hasty visit of two gentlemen from the king, and their superstitious fears excited by the accidental circumstance of the Cardinal's cross falling upon the head of one of his chaplains, yet no misgivings are stated to have disturbed the serenity of mind which he himself enjoyed before his final impeachment.

It was about noon, just after the Cardinal had dined, and before his household had finished their repast, that the hall of Cawood Castle was suddenly filled with gentlemen and retainers, conducted by Henry Earl of Northumberland, and Sir Walter Walsh, one of the gentlemen of the king's privy chamber. The earl, on his entrance, commanded the porter, in the king's name, to deliver to him the keys of the castle; an order which was stoutly resisted by the trusty servant, who refused to resign what he had sworn to keep faithfully; and Lord Percy was obliged to leave them in his charge, with the security of an oath, that no person should be allowed ingress or egress without permission from the commissioners. Notwithstanding the confusion which this contest occasioned, Wolsey remained in ignorance of the tumult, until informed of it by a domestic, who chanced to see the proceeding from a small window, which, according to the fashion of ancient times, was placed so as to command a view of the hall. On receiving the

intelligence which was thus communicated, Wolsey either affected to consider the arrival of the earl and knight as a visit, or really regretted, with the hospitality habitual to him, that he could not offer him a reception suitable to his rank. He ordered the table, at which he was seated, not to be removed, but to be replenished with such provisions as the castle afforded; and then advancing to meet the strangers, he encountered on the stairs the Earl of Northumberland, his former inmate, and pupil. Courteously chiding his guest that he had not apprised him of coming, Wolsey conducted Percy to his own apartment, that he might change his riding apparel; and there, Cavendish, the narrator of this interesting scene, alone accompanied them. The earl, confounded, perhaps, by the gracious manner and self-possession of the Cardinal, appeared unwilling to disclose the object of his commission to one whom he had been accustomed, from early habit, to fear, if not to reverence. At last, while standing with Wolsey by the chimney, he gained courage to say, in a faint and trembling voice, "My lord, I arrest you of high treason." It was some moments before Wolsey, astounded in his turn, could reply; but, recovering from his surprise, he demanded by what authority the earl acted; and refused to comply with his summons until he had seen his commission. Meanwhile, Sir William Walsh experienced a resistance equally resolute from Dr. Augustine, the Cardinal's domestic physician. He was thrust into the apartment at this critical moment by the enraged knight, who also made his appearance before Wolsey and the earl. On seeing Walsh, Wolsey made the same demand of his authority that he had urged to the earl; but Walsh, refusing to show his commission, to which he said some private instructions were annexed, Wolsey had not the satisfaction he demanded. He still declared, however, his objections to surrender to Percy, between whose ancestors, as wardens of the marches, and former archbishops of York, there had been, as the Cardinal alleged, old grievances, which might now actuate the representative of the house of Percy, to assert unwarrantable authority on this occasion. It is probable, that the humiliation of becoming the prisoner of one whom he had formerly governed, may have been the real

source of this reluctance. After this concession, Cavendish was commanded to leave the chamber; and the unhappy Wolsey, after consigning the keys of all his coffers to the commissioners, remained in his solitary apartment, closely guarded by the followers of Northumberland. The following day was passed in various arrangements of the household furniture, and of the personal property possessed by Wolsey. Cavendish alone was admitted to converse with him; and the narrative which he gives of their interview is extremely minute and affecting. The Cardinal, on seeing him, fell into a passion of tears, "which would have caused the flintiest heart to have relented and burst for sorrow." The sight of Cavendish, who had left his family and his home to serve him in his adverse fortunes, and the recollection of his other faithful attendants, was rendered grievous to the generous heart of Wolsey, by the reflection that they shared his ruin. The contrast between their attachment, and the malignant persecution of his high-born accusers; the dread of humiliation and of severity, aggravated by the change, from the deference of those around him, sunk the spirits of the Cardinal to the lowest state of depression. Yet, even at this time, he expressed confidence in the manifestation of his own innocence. "If I may come to my answer," said he, "I fear no man alive; for he liveth not that shall look upon this face, and shall be able to accuse me of any untruth; and that knoweth my enemies full well, which will be an occasion that I shall not have indifferent justice, but they will rather seek some sinister ways to destroy me." Notwithstanding this protestation, the anguish of Wolsey's heart could not be repressed, and despair began its ravages both on his mind and body, before he quitted his archiepiscopal palace. On the Sunday following his arrest, which happened on Friday, the Cardinal began his journey towards London, having been preceded by Dr. Augustine, who, with harshness and apparent injustice, was dispatched to the metropolis, fastened to the body of a horse, and under a strict guard.

Although prevented by Percy from taking leave of his domestics, Wolsey was followed by expressions of sorrow and attachment from many of his household, who forced their way into

on their knees before him. Throughout the town of Cawood, he was hailed with cries of commiseration, and of vengeance upon his enemies; and similar testimonies of the regard borne to him by the people were manifested during the whole of his progress to Doncaster. But neither these demonstrations of well-earned respect, nor the soothing and courteous reception of the Earl of Shrewsbury, could allay that fever of the mind which plainly showed itself in the countenance of Wolsey on his arrival at Sheffield Park, where he rested for eighteen days. To the watchful eyes of Cavendish, the illness which now attacked the Cardinal was obvious before he uttered any complaint; and it soon appeared so alarming, that it was judged expedient, even by Lord Percy, to use a greater degree of tenderness and caution than had hitherto been deemed necessary towards his afflicted prisoner. It was now requisite to apprise him that Sir William Kingston, constable of the Tower, was on his road to Sheffield Park, charged by the king to conduct Wolsey to London, there to make that defence which he so earnestly had desired to deliver in the face of his accusers. On hearing the name of Kingston, Wolsey was overcome with grief and consternation; for his mind, weakened by disease and calamity, reverted to a prophecy that he should end his days near Kingston; on which account, he had always avoided passing through the town of that name, situated near his former residence at Esher.

Surmounting the emotions to which this recollection gave rise, Wolsey was persuaded to receive Kingston, whom he saluted with his wonted courtesy, and from whom he heard the encouraging tidings of the king's favourable dispositions towards him, and kind messages of grace. It was then arranged that Wolsey should proceed with Kingston on the morrow, towards Leicester, the last resting-place of the unhappy Cardinal; but his illness increased so rapidly that he was unable to commence his journey so soon as he had intended. Even when he was considered well enough to depart, his illness was such that he could scarcely support himself upon his mule; yet he remained only one night at Hardwick-upon-Line, and another at Nottingham, and proceeded, notwithstanding increasing weakness, to Leicester, where he arrived at night. On reaching the abbey, is appointed abode, he was met at the

gates by the abbot and monks with torches, and received with great reverence. The first ejaculation of Wolsey, on greeting these holy persons, indicated his inward sense of his approaching death. "Father abbot," said he, "I am come hither to lay my bones among you;" and with much difficulty he was carried up stairs, and laid upon his death-bed, for he was now unable to walk, and his disease increased rapidly. Cavendish remitted not his last and sad attentions to his unfortunate master. After watching many hours by his bedside, the compassionate friend and attendant of Wolsey perceived that the object of his cares was likely soon to be released from his earthly troubles: yet the expiring light lingered in its socket, and the Cardinal continued to breathe until the following morning, when he seemed revived, asked for food, and confessed to one Dr. Palmes, who had for some time sedulously attended him. When this was finished, the morning was far advanced, and having, with the singular and unaccountable spirit of conjecture which is sometimes displayed by the dying, foretold the hour when his spirit should depart from its mortal tenement, he believed his end to be fast approaching. His words to Kingston, who bade him good morrow, were memorable and affecting. "I tarry," said he, "but the will and pleasure of God to render unto him my simple soul into his divine hands." He explained with great clearness the nature of his disease, which, in spite of some suspicions of his having taken poison, is credibly asserted to have been a dysentery, and alluding to the fatal tendency of that disorder; "Well, well, Master Kingston," said he, "I see the matter against me how it is framed; but if I had served God as diligently as I have done the king, he would not have given me over in my grey hairs." This remarkable and heartfelt reference to an existence spent upon the slippery ground of courts, in the pursuit of fallacious and unprofitable honours, affords an indication that, in his latter days at least, he had not suffered his understanding to be wholly perverted by the habits and associations of his life. After this acknowledgment, the second nature resumed the sway, and the dying Cardinal, again a courtier, besought Kingston to commend him to the king, and pressed him to remember all the communications which ever passed between them, especially touching the divorce. He manifested considerable

anxiety with respect to the progress of the Lutherans, whose rapid increase in importance and estimation he dreaded as a zealous churchman. After a long address, which, as it has been transmitted to us, shows that the native energy of his mind remained with him to the last sigh, the unequivocal and awful symptoms of death appeared on his countenance. "And even with these words," says Cavendish, who received his parting breath, "he began to draw his speech at length, and his tongue to fail; his eyes being set in his head, whose sight failed him." Then the bystanders began to remind him of Christ's passion; the abbot was summoned to administer the fifth sacrament of the Roman Catholic church, called extreme unction; and the guard were also desired to witness his last moments. The superstitious notions of the age caused the spectators of the scene to regard as a circumstance of some moment, the coincidence of Wolsey's words with the hour of his death; he expired as the clock struck eight.

The character of Wolsey, obscured by the envy of his contemporaries, and by the resentment of the three sovereigns who succeeded Henry the Eighth, has received its due tribute of commendation in later times. He was a man enlightened far beyond the period in which he lived, and calculated to advance the progress of civilization with a rapidity inconceivable to inferior minds. The strength of his understanding was only equalled by the versatility of his talents. In each of the various spheres of action allotted to him, he effected some important and beneficial change; displaying, in his course, an originality in his conceptions, which overpowered the obstacles opposed by custom and prejudice. In his legislative and political functions, he generally laboured with assiduity to promote the order and prosperity of the realm; so that, had he never suffered his private interests to interfere with his public duties, and from his clerical habits suffered his discharge of those duties to be biassed by the spirit of his order, he would have been justly deemed one of the greatest statesmen his country ever produced. As a diplomatist, it were difficult to say whether his abilities or his industry were most remarkable. The object of his political measures was to preserve that balance of power, the notion of which he probably first introduced into the mind of Henry VIII.

those times, general principles were much more frequently sacrificed to the passions and interests of kings and ministers, than in the present day, when a system of action is adopted in our councils, and if often erroneous, has at least the advantage of being discussed, and the chance of being dispassionately pursued. In Wolsey's foreign transactions he displayed a degree of decision, accompanied with caution, which may probably have been acquired from his insight into the cabinet of Henry the Seventh; and to this he added a more extended knowledge of political economy than any preceding minister.* The league of 1518, concluded at Greenwich, under the administration of Wolsey, has been regarded as a model for all treaties for peace; and the dexterity, not unaccompanied by artifice, with which Wolsey managed the conference at Bruges, shows how great an adept he was in all the minor branches of the diplomatic art. Eclipsed as his fine qualities often were by a selfish ambition not rarely dashed with sordid propensities, they conferred on the commonwealth benefits of no trivial value. To Wolsey England is indebted for the first notion of a vigorous police, and of a regular system in the administration of justice. To him she owes, in part, the superiority of her navy, to which Henry the Eighth, by his advice, directed a closer attention, treating it with a greater liberality than any of his predecessors had done. To Wolsey may be ascribed the first regular patronage of the medical art. In a more general sense, incalculable benefits may be traced to the example and encouragement given by his zeal and energy in promoting a spirit of improvement, and in rousing men from the slumber of ignorance and dull contentment in which all classes of society were at that time in some degree plunged.

In the ecclesiastical department, the merits of Wolsey are less unequivocal. It is true that he sought to promote the truest interests of the church in facilitating the means of education to its members, and enabling them to attain that sound knowledge without which power is both pernicious and unstable. But while he cherished this meritorious scheme, the immediate effects of his example were detrimental to his sacred profession, and to religion. Although his zeal did not run into acts

of persecution, yet it was generally suspected to result from ambition, and to savour far more of desire for the papal chair than of affection for the tenets of the church. In morals he was more than loose, not merely tolerating the improprieties of others, but countenancing them by his own departure from decorum. Yet some allowances are to be made for the profligate manners of the times, and for the lax notions of the great body of the clergy in those days of professed celibacy. In promoting the diffusion of science and letters, Wolsey aided the cause of virtue, ever most secure when attended by those auxiliaries, and invigorated by their natural consequence, mental employment. Wolsey was sincere and enthusiastic in his love for learning, both biblical and classical. Indifferently educated and cast too soon into the business of life to make any great proficiency in literature himself, he is yet declared to have recalled into this country the "three learned languages," without which all learning is lame." He invited Erasmus, and other celebrated scholars to England, and selected his daily associates and his household from the same valuable class of persons.* Even before he had brought his designs regarding Oxford to maturity, he projected the establishment of seven additional lectures there, both for the promulgation of knowledge, and as a means of provision for the learned. His solicitude for the welfare of his infant college was manifested by affecting supplications to Henry for its continuance, after all his own worldly prospects seemed closed for ever.

In the personal character of Wolsey there is a mixture of magnanimity and meanness, of arrogance and of urbanity, which alternately excites contempt and admiration. For the display of qualities so opposite, his lowly origin and sudden elevation may, in some degree, account. His nature was generous and open, as the affection of his dependents testifies: but he became habitually haughty and overbearing from the assumption of a rank to which he had no claim by birth, and rapacious from the indulged desire to give to that rank the lustre of unwonted magnificence and parade. The greatest vice of his character was, that he knew not to forgive. An affront to his dignity, or a sarcasm upon his weaknesses, was keenly felt, and it was bitterly re-

sented. The poet Shelton, tutor and poet laureate to Henry the Eighth, was pursued with unrelenting anger, for having indited satires upon the Cardinal, which were then deemed replete with poignancy; but in which the modern reader can with difficulty discover the sin of malice, through the veil of dullness. But Wolsey thought otherwise, or he regarded the design rather than the execution. The rash versifier died in the sanctuary of Westminster, whither he fled to escape the holy vengeance of this father of the church.

The more memorable fate of Buckingham was imputed to the wounded pride of Wolsey; and the early offence revenged upon Sir Amias Paulet evinced, that if, in some instances, the motives of his conduct were misconstrued, the unchristian spirit attributed to it too surely sullied his character.

Wolsey left one illegitimate son, Thomas Winter, who received, through the bounty of his father, a learned education at Paris; and, by the patronage of the Cardinal, was presented to eleven benefices.* Two other children were also said to have owed their being to the Cardinal, who was charged, in the articles of his impeachment, with having compelled Sir John Hanley to resign a farm belonging to the convent of Chester, in favour of the man that had married their mother. This statement is less certain than the other; nor is the point of any importance, except as illustrating his imperious and unscrupulous nature.

The remains of Wolsey were interred in the Abbey church of Leicester, after having been viewed by the mayor and corporation of Leicester, for the prevention of false rumours. On removing the body, it was found that he wore a shirt of haircloth next to his skin, an act of penance customary among the pious in those days; and, though indicating very false conceptions of the will of that Being who has constituted our frames for enjoyment, and who has beautifully exemplified the image of happiness in the infant state of man, this little circumstance, which was unknown to the attendants of Wolsey, proved that repentance and self-abasement were in his thoughts.

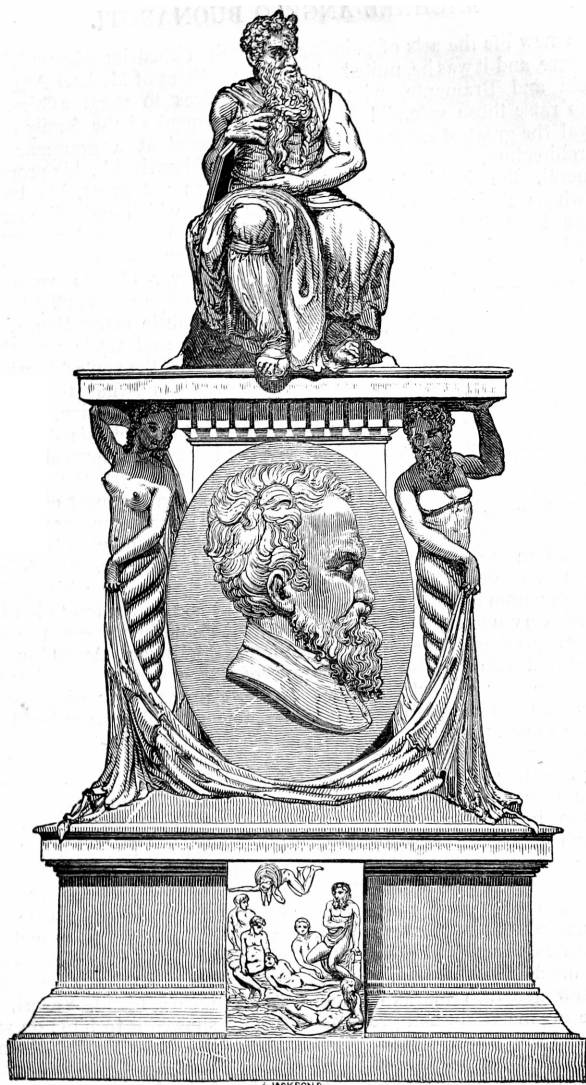
It was deemed proper that the Cardinal's corpse should be interred decorated with such vestures and ornaments as appertained to his holy offices. Thus,

attended to the last by some semblance of human grandeur, all that remained of Thomas Wolsey was deposited in the grave by torch-light, between four and five o'clock of the morning of St. Andrew's day, November 30th, 1530; the abbot and all the convent attending in solemn order, the canons singing dirges, and offering orisons.

The king, upon hearing of the death of his former favourite, is said to have expressed poignant concern, and to have declared that he would rather have lost twenty thousand pounds than so valuable a man; yet his grief did not prevent the selfish monarch from interrogating Cavendish, who conveyed to him the tidings, with some anxiety, about a sum of fifteen hundred pounds due to him from Wolsey; nor could his regard for the memory of a distinguished subject induce him to give it the just and even accustomed honours. The Cardinal's college, the glory of Wolsey, was assigned to a new patron, the monarch himself; and his monument, prepared by his own orders, and designed by Benedetto, a famous Florentine sculptor, was seized by Henry, who left the tomb of his renowned minister destitute and obscure.

It is impossible to close the page of history on which we have been meditating, without marking a circumstance calculated to give the personal character of the bold, able, and unprincipled man, whose story lies before us, a kind of interest that, strictly speaking, belongs not to it,—we mean the contrast presented by his royal master. When, revolted by the Cardinal's unbearable haughtiness, or disgusted with his meanness, we turn to the king and find him clothed in all his minister's worst vices, and glaring with all his own, unredeemed by a single virtuous or amiable quality, we at once acknowledge that a more hateful tyrant has scarcely ever cursed any country whose sins he was suffered to chasten, and feel disposed to dwell upon Wolsey's talents as a mitigation of his faults. This feeling is softened into something like pity, when we reflect on the black ingratitude that worked his ruin; we are fain to admit that his fall was effected by almost the only hand which had no right to rise against him; and we retire with the impression, that no one portion of his character claims more of our reprehension than his unhesitating, undeviating subserviency to his imperious

* Fiddes, p. 531.



THE LIFE OF MICHAEL ANGELO BUONAROTI.

CHAPTER I.

Introduction.—Michael Angelo's Early Life.

THERE is no period in the history of the world so fertile in striking and important events, as that which embraces the

revival of letters, of the fine arts, and the discovery of printing, which followed in quick succession. It was towards the close of this time, that MICHAEL ANGELO BUONAROTI attained his greatest eminence.

It was mainly his genius that was

to call into new life the arts of painting and sculpture, and it was he, united with Brunelleschi and Bramante, who was destined to raise those splendid fabrics which rival the greatest monuments of ancient architecture.

In general, the incidents relating to men whose lives were devoted to study have been but imperfectly recorded, and it is often difficult to trace out the steps by which excellence was attained. The events, of the life of Michael Angelo have, however, been carefully noticed by Condivi and Vasari, who were his scholars and friends, and from their works the facts relating to this biography have been principally collected. If it should be considered that their works partake too much of panegyric, their apology may be sought in the greatness and universality of the genius of him whom they recorded, which seems to have dazzled all his contemporaries, and which even won for him the praises of Aretin, whose satire was called the scourge of princes, and of whom it was said, that he "spoke ill of every one save God."

The life of Michael Angelo is intimately connected with the history of the whole art of design; indeed the great excellence which he attained both as a painter, a sculptor, and an architect, cannot be sufficiently estimated except by considering the state of these arts at the time he commenced his career. In the notice of the life of Sir Christopher Wren, which has been already published, some few observations respecting the origin and progress of architecture were inserted, in order that the reader might be enabled the better to appreciate the merits of that great artist. In the present memoir, with a similar object, some few general remarks will be given respecting the origin and progress of painting and sculpture.

Michael Angelo Buonaroti was born in the year 1474; his family was ancient and illustrious; many of his ancestors had at different periods filled the highest offices in the Florentine republic. At the time of his birth, his father was governor of the castle of Chiusi and Caprèze, but he soon after retired to his patrimonial property near Florence, in the neighbourhood of which were some quarries. Michael Angelo was put to nurse with a wife of one of the masons, and used jestingly to attribute his excellence as a sculptor, to having imbibed with his milk a love for the chisels and mallet of his foster-father. His father,

though of illustrious descent, being poor, the brothers of Michael Angelo devoted themselves to rural affairs, and the management of the family estate. He was placed at a grammar school in the neighbourhood: his progress, however, was not great, his bent for the fine arts, which early discovered itself, leading him to employ every moment he could snatch unobserved, in drawing whatever objects were at hand. The profession of an artist being at this period in little estimation, the pride of the father and uncle was shocked at the notion of the son's following the arts as a trade, and they therefore sought, not only by persuasion, but by chastisement, to check his dawning taste; he had however formed a friendship with a young artist, the pupil of Ghirlandaio, (then the most eminent painter in Italy,) who encouraged his taste by furnishing him with the drawings of his master as studies. The father finding it impossible to stem his son's inclinations, at last consented to his becoming a painter, and he was accordingly placed under Ghirlandaio. And it is noticed as a proof of the progress which he must have made, even at this period, that by the agreement which was entered into between the father and the painter, (which has been printed by Vasari,) the father was to receive a monthly remuneration for the services of his son.

Under this painter he early displayed great talent; one by one his fellow pupils were surpassed, and it was not long before he ventured even on criticising the designs of Ghirlandaio. One of these drawings, round which he had traced a bolder outline than that designed by his master, came into the possession of Michael Angelo's friend, Vasari, who in after life showed it to him: on seeing it, he is said to have lamented that there was so little difference between the first efforts of the boy, and the productions of his maturer age. A somewhat similar anecdote is told of Sir Joshua Reynolds.

Michael Angelo on another occasion gave proof of his rapid progress, by drawing, in the absence of his master, the scaffolding, and the pupils at work: when Ghirlandaio returned, he was so astonished at a performance which was at once indicative of great proficiency in drawing, and of a boldness of manner then unknown, that he proclaimed it the work of a master to be imitated, rather than the mere essay of a pupil. He continued to labour unceasingly

at his profession, studying the best works which came within his reach; and a print of St. Anthony and the devil, supposed to be by Martin Schoen, (one of the earliest engravers,) is mentioned as having been copied by him with great care, he having painted the different objects in the composition (such as fish, animals, &c.) with singular accuracy, and, wherever he could procure the subjects represented, painted them from nature. He also at this time made several imitations of the drawings of the older masters, which were so well executed that the connoisseurs of the day being deceived, purchased them as the productions of those whose works they professed to be.

After the darkness and ignorance of the middle ages, Dante, followed by Petrarch and Boccaccio, (each choosing a new and untried field,) had, during a rapid and brilliant career, succeeded in effecting the perfection and refinement of the Italian language, and the introduction of the study of the ancient classics; yet their disciples were few, and none sustained the reputation of their masters. Petrarch died in 1374, Boccaccio in the year following; and a full century elapsed without producing any literary work that can be ranked with their compositions. For a time, a general degradation of letters, and a debasement of the Italian language took place. About the middle of the fifteenth century the study of literature was again revived, and the fine arts began to be cultivated, principally under Cosmo de' Medici, who, after having established his authority in Florence, devoted the latter part of his life to the encouragement of philosophy and literature. He was succeeded by his son Piero, who was prevented by disease from making any great progress in the path pointed out by his father;—it was principally to Lorenzo de' Medici, (the eldest son of Piero,) a man possessed of an original and versatile genius, that the praise of having restored to literature and the fine arts their ancient honours, is due. "And whilst the study of polite literature was thus emerging from its state of torpor, the other sciences felt the effects of the same invigorating beam, and the city of Florence, like a sheltered garden in the opening spring, re-echoed with the earliest sounds of returning animation.*"

Though, as will be seen in the sequel, it was the fate of Michael Angelo in

after life to receive little help from the patronage of the great; yet in his youth he was eminently fortunate in having Lorenzo de' Medici (the great patron of literature and the fine arts) for his friend and adviser.

At the time Michael Angelo began to study, Lorenzo was in the plenitude of his power, and he devoted a portion of that time (the whole of which was occupied in the advancement of the greatness of his country) to the revival of the arts of design. Having collected, for this purpose, in his garden some of the finest specimens of ancient sculpture, and the best paintings of the time; he inquired of Ghirlandaio the names of the most promising of his pupils, in order that they might be allowed to study the various objects in his collection, so as to form their taste from these fine examples. Michael Angelo was one of those who were recommended, and it seems that some rising jealousy on the part of the master the more inclined him to this, as he was glad to rid himself of one who, he felt, was early destined to become his rival in the art of painting.

It was not long before his talents were noticed by Lorenzo, whom knowledge as well as inclination fitted to become a judicious patron. It is said by Vasari, that Michael Angelo having begged a piece of marble, from some men employed in the garden, carved out of it a mask of a satyr, the design of which was borrowed from an antique fragment. It was seen, and admired by his patron, who, however, jokingly remarked, that he had committed an error, in putting a complete set of teeth in the mouth of an old man. By the next day, however, he found this fault repaired, for the artist had dexterously broken away one of the front teeth, and drilled a hole in its place, to represent the cavity which would have been made by its falling out. Lorenzo, struck with his rising talents, his eagerness and docility, sent for his father, and desired that he might be permitted to take him entirely under his protection, to which the father reluctantly consented. After this he took up his residence in the palace, and a competent salary was allowed him; and Lorenzo, not content with patronizing the son, bestowed an office of profit on the father, whose circumstances were declining.

Michael Angelo was received on terms of intimacy and freedom by his patron,

* Roscoe.

at whose table he formed an acquaintance with the learned men of the time, by whom Lorenzo was surrounded. During this period he obtained the friendship of Politian, the most accomplished scholar of his age, by whose advice he executed the celebrated small bas relief of the battle of Hercules and the Centaurs, which at once established his fame as a great artist. During the time of his studying in the garden of Lorenzo, Torrigiano, one of his fellow students, (who afterwards executed in England the tomb of Henry VII.) in a fit of envy at his rising greatness, or on some quarrel, struck him so violent a blow on the nose with a mallet, that he bore the mark through life. The laws of those times not being very favourable to the liberty of the subject, Torrigiano was banished the state for this attack on his rival's person.

On the death of Lorenzo, Michael Angelo continued for some short time under the patronage of his degenerate successor, Piero de Medici, who was incapable of appreciating his talents, and therefore unfit to be the patron of one so eminent. During the winter, he was employed by his unworthy and capricious master, to build up in the court-yard of his palace, a large statue of snow: and was also compelled to keep company with the duke's favourite valet; and Piero used to boast that he had in his service, the most eminent artist, and the fleetest running footman of the day. About this time Michael Angelo executed in bronze, a colossal statue of Hercules, which, it is said, was sent into France; but it is unknown whether it now exists. He also executed a crucifixion, in wood, for the church of a convent in Florence.

Michael Angelo was early impressed with the conviction, that the human figure could not be truly represented without an accurate acquaintance with its parts, and a knowledge of the several organs which contribute to its functions, whether the subject were in rest or in action. It was during this period that he availed himself of the assistance of the superior of the convent, for whom he had executed the crucifixion, to acquire that intimate knowledge of anatomy, for which his works are so distinguished, and which he is considered in general to have displayed too ostentatiously.

It is proposed here, in accordance with the plan already noticed, to break

off the narrative, for the purpose of briefly considering the ORIGIN and PROGRESS of the arts of sculpture and painting among the ancients, and the history of their revival among the moderns. Without entering somewhat on these points, the mere detail of the events of the life of Michael Angelo would excite little interest. The chief pleasure or information to be afforded by it, must in fact arise from a knowledge of the principles relating to the fine arts,—from considering the estimation in which they have been held by all polished nations,—the assistance they afforded to the gradual civilization of mankind,—and the various difficulties opposed to the attainment of excellence by those who professed them.

CHAPTER II.

Of the Origin and Progress of Ancient Sculpture and Painting.

I. ANCIENT SCULPTURE.

THE art of sculpture appears to have been cultivated in the early ages of most nations. It was, however, chiefly employed by them in the service of religion, or in the symbolical representations of divine attributes; this is abundantly testified by the remains of art in Egypt, Ethiopia, India, Persia, and ancient Greece.

The origin of sculpture in all nations may be traced to the desire to perpetuate the memory of extraordinary events or persons, or to do honour to gods or heroes; but though the art of design may have owed its beginning to necessity, yet its cultivation and improvement will in all cases be traced to civilization and refinement.

With regard to the specimens of sculpture by the Egyptians, amongst which are the most ancient monuments now remaining, Mr. Flaxman observes, that the forms of the hands are gross, and have no anatomical detail of parts, and are totally deficient in the grace of motion; but that, notwithstanding their defects, we shall find in them some excellent examples of the art; that the principal forms of the bodies and limbs are expressed with a fleshy roundness, and that in the female figures, parts often possess considerable elegance and beauty. The forms of the female face have much the same outline, and indicate the same progression

towards beauty, which we see in the early Greek statues, and like them are without variety of character; though their simplicity of conception, breadth of parts, and occasional beauty of form, have been praised by the best judges ancient and modern. The principal defects of their works arise from their want of anatomical, mechanical, and geometrical science.

The Egyptian arts were in different progressive states of improvement from before the time of Moses down to the invasion and subjection of the country by Cambyzes, a period of about 1000 years. The arts of Greece, from their rudest beginnings, rose to perfection during the reign of Alexander, that is in about 900 years. Winkelman, who has written much on ancient art, marks what he conceives to be three distinct epochs in the style of Egyptian sculpture, and his editor, the Abbate Fea, has spread these out into five. It would be foreign, however, to the object of these observations, here to enter into these antiquarian disquisitions. Much speculation has been employed to arrive at the reason why a nation so superior to others in science, should have made so little improvement in the arts. The causes assigned for it are numerous. By some it is ascribed to the want of beautiful forms, the ignorance of anatomy, and the absence of public athletic games, as the chief reasons. It is, perhaps, sufficient to account for this by stating, that in Egypt, professions were hereditary, that the son was compelled to follow the father's occupation, and that the arts were studied solely by slaves, who were classed in the lowest rank, and never allowed to rise above it; circumstances under which little else than mere mechanical excellence could be expected. In Greece, on the contrary, the arts were emphatically considered *Liberal*, because none but freed men could study them; they were pursued by the noblest persons, and were used to celebrate and excite virtue and excellence, and not, as in Egypt, merely to pile up ponderous monuments to rulers.

Though the Egyptians attained but an inferior degree of excellence in the arts, yet they possessed the power of working with great delicacy in the hardest granite and porphyry. What were the means by which they were enabled to do this have never been discovered; the finest tempered tools of modern times are destroyed after five or six

strokes on those substances, out of which they finished immense statues.

Mr. Flaxman supposes that it was not till after Hippocrates had made his researches in anatomy, that the minute anatomical parts were expressed in the Grecian statues; and remarks, that Pliny notices the sculptor Leontinus as first expressing tendons and veins;* and that, in the same manner, all the improvements of the art of design followed the great improvements of science; that it was not till after Euclid had formed his collection of problems, that we find the utmost variety given by sculptors to the positions and actions; and that Greek sculpture can hardly be considered to have risen to excellence, until anatomy, geometry, and numbers, had enabled the artist to determine in his drawing, proportion and motion; as it must be evident that the human figure can only be represented in the same degree as it is understood. From the want of the same progressive improvement in optics, we find the best ancient pictures and basso relievos always limited and defective in what is termed the shortening of the figure.

The history of Greek sculpture has been divided generally into four principal periods, each distinguished by striking peculiarities of style, or mode of treatment; the first embraces all that uncertain age of which our only knowledge is the tradition handed down by ancient writers, to the period of the Æginetan style or school, that is to 600 or 550 B. C. This may be termed the—

I. ARCHAIC PERIOD.

In this period are to be classed those works described by Pausanias and Pliny by the terms *stiff* or *straight*, partaking more or less of the original terminal statues in which the head and feet only were expressed, the arms and legs being united to the block; and also the remains of sculpture discovered amongst the ruins of a temple in the island of Ægina, now at Munich. The second period is the—

II. PHIDIAN,

and will reach from the Æginetan down to the sublime style of sculpture, which was brought to perfection by Phidias and his contemporaries, 600 to 450 B. C. when those works of art were produced

* The words of Pliny are, *Hic primus nervos & venas expressit, capitamque diligentius.*

"whose mimie flesh seems yielding to the touch! whose balance alarms with the expectation of movement!" The third period is the—

III. PRAXITELIAN AND LYSIPPIAN STYLE,

and is distinguished by the introduction of a richer and softer style of execution, effected by Praxiteles, and varied in some respects by Lysippos, and may be brought as low down as 250 to 200 B. C.

IV. DECLINE.

The fourth, and last, is the decline of sculpture in Greece under bad imitators and worse innovators; when grandeur was lost sight of in detail, when manner took place of style, and simplicity and general grace were superseded by individuality and littleness.*

We have extracted the foregoing short arrangement of the æras of Grecian sculpture, but our limits do not admit of any attempt to trace its progress through the successive improvements, from the rude but spirited works of Dædalus, mentioned by Pausanias, to the meridian splendour of the times of Phidias and Praxiteles.

Sculpture has been said, to "start at once into life and grace at the Promethean touch of Phidias; and that twenty centuries have not only added nothing to this department of the fine arts, but that, contrary to all reasonable expectation, it has receded from the point of excellence which the first master had attained, and that like the fabulous Minerva, (whose story the eloquent Phidias recorded,) sculpture issued from the brain of her parent in full perfection, and the hour of her birth was also that of her maturity."

That twenty centuries have added nothing to the perfection which was attained by Phidias and Praxiteles and those of their times, must be admitted: the works of the intervening ages afford sufficient evidence of this; but though this part of the proposition be true, it is equally true that Grecian art had its infancy, and that, like all else in nature, the developement of the human faculties in the attainment of excellence was gradual, and that it was by a succession of improvements from age to age, that sculpture attained that unsurpassable excellence which it reached in the time of Phidias.

In accordance with what has been stated with regard to the perfection of

execution, keeping pace with, or rather following the discoveries in anatomy* and geometry, it may also be observed that the beauty and perfection of Grecian art, of the school of Phidias, accompanied the great moral and intellectual improvement of the times: and art was most perfect when Æschylus, Sophocles, and Euripides produced their tragic poems, and Socrates and Plato, and the great Grecian statesmen, by their writings and example, improved the moral and political state of mankind.

Another cause of the advancement and cultivation of art, was the estimation in which it was held throughout Greece; the public authorities took a deep interest in its perfection. At Thebes,

* By most of the writers on Greek sculpture the improved knowledge of anatomy is stated as one of the causes of its perfection: this, however, is denied by two writers both distinguished for their skill in anatomy, and for great practical knowledge of the arts. "It has long been a matter of keen debate, whether the Greeks were acquainted with anatomy, but that if it had been much known to them their knowledge would not have remained a subject of speculation, we should have had evidence of it from their works; but, on the contrary, we find Hippocrates spending his time in idle prognostics, and dissecting apes to discover the seat of the bile. If more anatomy had been known than could be seen through the skin, or discovered from a skeleton found on the sea-shore, it would not have been left an imperfect and nearly unknown science. The ancients had no opportunity of becoming acquainted with the formation of the human body except from what might be the result of accident; after death the body was burnt, and the funeral urn contained its ashes

"The ancients, however, kept records of the perfections of the human body, and these consisted in the aptitude for exercises. At the Olympian Games statues were made of those who had been often victors, when the exact size, the peculiar forms, all the beauties, and even the very defects of their bodies were carefully preserved that they might serve as models of manly strength, of swiftness, and prowess. One striking part of their excellence is the total avoiding of all exaggerated expression, caricatured, violent, or strong action, which, instead of bespeaking the sympathy of the beholder, only weakens the effect, producing disgust rather than pleasure. If they had not anatomy they had, perhaps, a better substitute, the continued means of observing the most perfect specimens of the living body in action, and of this they made the best use."—Mr. John Bell's *Travels in Italy*.

Mr. Charles Bell in his *Essays*, says, "Although it is certain that the Greeks had not made any proficiency in anatomy, but by minute and continued observation of the figure under all the circumstances and situations in which it was to be represented they obtained a just knowledge of it; yet, it must be obvious, that the power of representing expression accurately must be materially aided by the accurate knowledge which is to be obtained by becoming familiar with the component parts of the figure, and the characteristic differences which mark and distinguish the countenance and the general appearance of the body in situations interesting to the painter and statuary. The characters of infancy, youth, and age; the peculiarities of sickness or of robust health; the contrast of manly and muscular strength with feminine delicacy; the appearance of disease, pain, or death, all must be better learnt and understood from the actual knowledge of the muscles of expression, than from mere individual observation."

* Ency. Metrop. "Sculpture."

as well as at Athens, there existed regulations both for the protection and the encouragement of the professors, and there were laws both penal and pecuniary against those whose works fell short of the requisite beauty of the object attempted, and against the execution of subjects which were either common or regarded as improper; the authors of which were treated with contempt and derision.

The rank and consideration accorded to the Greek artists tended much to the encouragement of art. Far from being considered as mere mercenary tradesmen, they were esteemed persons of distinction, and respected as men endowed with divine genius, enriched by study, polished by their intercourse with the world; they were placed even above philosophers, and considered amongst the first persons of the state, and partook, in the public ceremonies, of that immortality which they bestowed on others by their works. It was not unfrequently that their statues were placed side by side with those of great kings and heroes. As a proof of the estimation of the arts of painting and sculpture amongst the Greeks, it may be observed, that Plato studied painting—and Aristotle may be reckoned amongst the patrons of the art, as well as his pupil Alexander.

Many provinces of art have since been cultivated by amateurs and persons of refined education, but the mass have ever been regardless of the master-pieces of the arts of design. This was not so amongst the Greek nations. Art in all its branches and influences grew up in the most intimate connexion with the whole population, was cultivated by the whole, and formed an integral part of public education. The knowledge of the art of design was an essential accomplishment amongst all the well-educated Greeks. The drawing of the human figure on tables of wood as large as life was an academic exercise, by which an exact knowledge of proportion, grace, and freedom, was obtained unknown in our modern schools. Such was the extreme and general admiration for the finer works of art, that the people constantly resorted to those places which were possessed of any rare or great work of art, as, for instance, to Thespizæ, where the Eros of Praxiteles was placed. As a proof of confidence in the respect paid by all to the professors of the arts, it may be remarked,

that when Demetrius besieged Rhodes Protogenes was finishing a picture: on his indifference being remarked, he observed, "Demetrius wars with the Rhodians, not with the arts!" Again, the manners of the Greeks were peculiarly adapted to the furtherance of the study of the arts. Every ceremony of their poetic religion, the rites observed at their marriages, their funeral processions, and public games, were so many occasions for calling forth talent, and presenting fine models and subjects for imitation.

"Another great cause of their advancement, was the expedition of Xerxes, which, by its failure, discovered to the Athenians the wealth of Asia, while it discovered the weakness of the invaders. It was the custom in Greece to dedicate a tenth of all spoils gained in battle to the service of the immortal gods, and a tenth of that obtained from the Persians was appropriated to this service. Temples were erected and embellished, far surpassing in beauty and magnificence those which had been demolished; and, happily for the advancement of art, the opportunities this application of wealth afforded for its improvement, were met by a greater quantity of talent in the respective professions of architecture and sculpture than had ever before appeared. This ample employment, and the high object to which their works were destined—to honour the gods and commemorate the glory of their country—excited a spirit of honourable emulation in the artists, which called forth all their powers, and led to that perfection in art which even at this remote period we contemplate with the highest admiration."*

Phidias had the advantage of living at Athens during the enlightened administration of Pericles, and being held in great esteem by him, was consulted on all the works that were undertaken for the embellishment of the city, and was particularly engaged in the superintendence and decoration of the Parthenon, or temple of Minerva. His superior genius, in addition to his knowledge of painting, (which he practised previously to commencing sculpture,) gave a grandeur to his compositions, and a grace to his groups, a softness to the flesh, and a flow to draperies unknown to his predecessors; the character of whose figures was stiff rather than dignified, their forms

meagre or turgid, the folds of drapery parallel, poor, and resembling geometrical lines, rather than the simple but ever varying appearance of nature.

Within the temple of Minerva in the Acropolis at Athens, stood the statue of the goddess, which was thirty-nine feet high, made by Phidias of ivory and gold, holding a victory of six feet high in her right hand, and various other ornaments.* His chief work was the statue of Jupiter, at Elis, sitting on his throne, which was wonderfully enriched with ornament and basso relievos: the height of this figure if upright would be sixty feet†; the statue was of ivory, and enriched with golden ornaments and precious stones, and justly esteemed one of the seven wonders of the world. None of the greater works of Phidias remain, though the sculptures of the pediments, the metopes,‡ and portions of the frieze of the Parthenon, forming the chief part of the Elgin marbles, (which were undoubtedly the works of Phidias and his pupils,) are sufficient proofs of the justness of the universal praise bestowed on the founder of the grandest style of Grecian art.

The value put on art, which was excessive, was another cause of its perfection; being an excitement to excellence from the demand. The citizens of Cnidos refused to part with the Venus of Phidias to king Nicomedes, though he offered in return to release them from an immense debt which was due to him. When Phidias proposed to make the great statue of Minerva of marble, on account of the costliness of the ivory, the Athenian authorities told him not to mind greater cost for the attainment of greater beauty.

Though the time at which sculpture arrived at perfection was the age of Phidias, Pliny's chronological catalogue of the most celebrated Greek artists continues 160 years later, subsequent to which time the Laocoon, and several of the finest groups and statues, it is supposed,

were executed. Nor can we believe from the admirable busts and statues of the imperial families still remaining, that sculpture began to lose much of its graces, at least in the less ideal branch of the art, until the reign of Antoninus. Indeed, so strong was the stamina of Grecian genius in the arts of design, that after the time of the Iconoclasts in the fifth and sixth centuries, (when the noblest works were destroyed,) and until Constantinople was taken by the Turks in the fifteenth century, the Greeks executed small works of considerable beauty, as may be seen in the carved diptychs.*

The Etruscan and Sicilian sculpture, (as to the origin of which so much has been written,) must be classed as the work of Greek colonists or their disciples. The principal schools of Greek sculpture were Athens, Thebes, and Rhodes; but it does not appear that any one state was devoid of a taste for the beautiful:—from Rhodes alone the Romans brought away 3000 statues.

It seems to be admitted by all, that the Greeks in their statues attained that which is considered as perfection in the representation of beauty; and, as it were, became at once the arbiters of a standard of form. Various causes have been assigned for this superiority. Some have attributed it to the fineness of the climate, yet other countries had a climate at least equally good; some assign it to the beauty of the people; others to a peculiar form of government; whilst, on the other hand, others have entered into long discussions, to prove that the climate of that part of Greece where the arts most flourished was bad; that the Athenians, at least, were far from being celebrated for their beauty. In proof of one of these objections, it may be

* Several of the diptychs preserved in the various museums of antiquities, afford some curious specimens of the art of painting and carving, during the middle ages.

The diptychs were composed of small tablets of wood or ivory. They were used by the consuls, who, on their election, inscribed their names in them, the date of their election, the names of the principal magistrates, and other memoranda; these were presented by the consuls to the officers of state and their friends, in the same manner as pocket-books are now given on the beginning of a new-year, which, probably, is a continuation of the ancient custom.—The diptych was adopted by the christian bishops, and was used as a species of ecclesiastical register for different purposes; the exterior of the tablets was usually ornamented with carvings or paintings of scriptural subjects. When it was composed of three tablets it was called a *triptych*; these tablets were usually placed on the altar, and from them, altar-pieces with folding wings turning over the middle portions were originally derived,

* The great ivory statues, according to Aristotle, were made of stone covered with ivory, so fitted together as to appear one mass of ivory, which has much the tint and appearance of flesh.

† The colossal sphinx near the great pyramid, rises twenty-five feet, although it is nearly buried up to the throat. The sitting statues of Memnon, the mother and son of Osymandyas, at Thebes, are each fifty-eight feet high; and the clenched hand, in red granite, in the British Museum, belonged to a statue sixty-five feet high. The colossus of the sun at Rhodes, is mentioned by Pliny to have been 105 feet, and was thrown down by an earthquake after standing fifty-six years.

‡ See note p. 12.

stated, Cicero remarks that few of the youths of Athens were really handsome. With regard to the merits of a peculiar form of government, it is certain that the arts equally flourished in Greece under very opposite governments, and in the most powerful and the weakest states. Some, or perhaps all, these causes may have assisted though they alone could not have produced the results contended for. The principal cause was that the Greeks were more refined than any nation which had before existed, and the same cause which led to their excellence in poetry, ethics, and political science, led to their superiority in the arts. Another reason was their peculiar admiration and study of beauty, hereafter to be noticed; and as religion was the first mover of their art, it followed that they should endeavour to invest their gods with the most perfect form; and they were, therefore, peculiarly led to a complete and intellectual study of its elements and constitution. Again, it should also be remarked, that at the period when the arts were at the greatest perfection, civilization had just arrived at that state in which the manners of men are polished but yet natural, and consequently their attitudes and gestures were expressive and emphatical without being coarse. Their style of dress also was much better adapted to display the natural form of the body, without constraining the motion, and destroying the shape, as in more recent periods; thus perpetually affording fine models for the artist.

As in discussing the subjects relating to art it is necessary to use certain terms, with respect to the meaning of which much difficulty and some difference of opinion exist, we shall give a definition of those which are in more general use. Indeed, unless the sense in which they are used by the author is defined, the reader and the writer must often arrive at different conclusions. Of various writers on art, perhaps none has been so generally successful in defining the terms in use as Mr. Fuseli;* we shall adopt his explanation of a few which are most important to be understood.

Nature he states to be as the general permanent principle of visible objects not disfigured by accident, nor distempered by disease, not modified by fashion or local habits. *Nature* is a

collective idea, and though its essence exist in each individual of the species, it can never in its perfection inhabit a single object.

"With respect to *beauty* I do not mean to perplex with abstract ideas, and the romantic reveries of Platonic philosophy, or to inquire whether it be the result of a simple or a complex principle. As a local idea, beauty is a despotic princess, and subject to the anarchies of despotism; enthroned to-day, dethroned to-morrow. The beauty we acknowledge is that harmonious whole of the human frame, that unison of parts to one end, which enchants us;—the result of the standard set by the great masters of our arts, the ancients, and confirmed by the submissive verdict of modern imitation.

"By *grace* I mean that artless balance of motion and repose sprung from character, founded on propriety of character, which neither falls short of the demands nor overleaps the modesty of nature. Applied to execution it means that dexterous power, which hides the means by which it was attained, the difficulties it has conquered.

"When we say *taste*, we mean not crudely the knowledge of what is right in art: taste estimates the degrees of excellence, and by comparison proceeds from justness to refinement. We generally confound, when speaking of art, *copy* with *imitation*, though essentially different in operation and meaning. Precision of eye, and obedience of hand are the requisites of the former, without the least pretence to choice, what to select, what to reject; whilst choice directed by judgment or taste, constitutes the essence of imitation, and alone can raise the most dexterous copyist to the noble rank of an artist. The imitation of the ancients was *essential*, *characteristic*, *ideal*. The first cleared nature of accident, defect, and excrescence; the second formed the stamens which connects character with the central form; the third raised the whole and the parts to the highest degree of unison.

"No word has been more indiscriminately confounded than *genius*;—by genius, I mean that power which enlarges the circle of human knowledge, which discovers new materials in nature, or combines knowledge with novelty, whilst talent arranges, cultivates, polishes the discoveries of genius."

Without attempting to enter into, or even examine the metaphysical discus-

sions relating to beauty, which have occupied so many writers, it will be interesting, in addition to Mr. Fuseli's definition, to examine what were the notions of Mr. Flaxman on this point, and the consideration of these will in some measure lead to the elucidation of the reasons of the superiority attained by the Greeks.

He defines beauty* of the human person as goodness or virtue, and wisdom in a human form best suited to their expression and exertions. "Whatever of beauty or perfection becomes an object of contemplation to our minds, whether it be purely mental, or perceived through the medium of our senses, must be derived from the beautiful and perfect itself, and may be traced back towards its divine origin; however diversified, it proceeds from this source, and directs us where to seek the principles and perfection of all science and art, of all things metaphysical, physical, and moral, which, by their mutual connexion and harmony, declare their common relation and origin: therefore, what is called *beauty* in the arts of sculpture and painting, must be sought for in its principles, metaphysical, physical, and moral."

It is curious also to examine what were the principles on this subject of the Greek philosophers, at the time when the arts in Greece attained their greatest excellence. In the dialogue between Socrates and the sculptor Clito, (*Xenophon's Memorabilia*), Socrates concludes, "that statuary must represent the actions of the soul by form;" and in the former part of the same dialogue, Parrhasius and Socrates agree that the good and evil qualities of the soul may be represented in the figures of man by painting. Plato, in his Dialogues, reasons to the same purpose, and declares that the good and the beautiful are one. Aristotle observes that beauty is order or grandeur; order supposes symmetry, fitness, and harmony; and in grandeur are comprised simplicity, unity, and majesty; and Aristotle concurs with Plato in acknowledging the relation between beauty and goodness, evil and deformity; and it appears to have been one of the great objects of all the ancient schools, to trace and demonstrate, not only the likeness, but the identity of beauty and goodness. So great

and so universal was the admiration of beauty of person, that prizes were instituted for those who excelled in beauty and regularity of form, and the priests of some of the most celebrated temples were selected from the youths to whom prizes for beauty had been awarded. The Spartan prayer, "Give us what is good and what is beautiful," is another proof of the general sentiment on this subject.

The Greeks appear to have delighted more in imitation than in creation or action, which, perhaps, was the chief cause of the perfection they arrived at in the imitation of nature, without attempting to go too far in the representation of more than beauty of form; again the physical beauty of the race, exposed to view by gymnastic and warlike exercises, gave a right direction to the study of sculpture, and it was the conviction that the beauty of art consists more in proportion, harmony, and regularity, than in an excessive expression of any passion or action, or a superabundance of ornament, that led them to the right path, and preserved them from leaving it.

As sculpture owed its early origin to religious worship, and to the formation of images of the Deity, the peculiar feelings of the Greeks on those points materially assisted them in the attainment of excellence.

Both in the developement of modes of religion peculiar to the Dorians, and in the adoption and alteration of those of other nations, an ideal tendency may be perceived, which considered the Deity not so much in reference to the works or objects of nature as to the actions and thoughts of men; consequently their religion had little of mysticism, which belongs rather to elementary worships, but the gods assume a more human and heroic form, although not so much as in epic poetry: hence the piety of the Doric race had a peculiar and energetic character, as their notions of the gods were clear, distinct, and personal.*

Whatever may be the truth or merit of these theories, yet it must be obvious that the various causes we have stated led to the attentive, intimate, and minute study of particular character, of beauty of form and expression; and the result was the attainment of excellence in its actual representation, and the production of those specimens of

* See the article "Beauty," in Rees's Encyclopedia, which article, and that on sculpture, were written by Mr. Flaxman.

* Dorians, Müller, b. ii, c. xi. p. 9.

art which have never yet been surpassed, or even rivalled; but which only excel nature by bringing together such an assemblage of beautiful parts as nature never was known to bestow on one object.

In arranging the different styles of the beauty of Greek sculpture, Mr. Flaxman observes, that the ancients assigned the first class of beauty to the superior divinities, the second to heroes, and the third to fauns.

Of the superior gods, the sons of Saturn possess the rank of *sublimity* of beauty. In the fine head of Jupiter, in the pope's collection, the hair rises from the forehead, and descends in abundant flowing locks on each side of his face and neck to the shoulders, his forehead is muscular, with an expression of great strength, his nose and cheek are correspondent, his eyes express benevolence, his wise and serious brow, his placid countenance and full beard inspire reverence and awe; his figure is that of the *mightiest* of the superior gods,—his right arm moderately raised with his thunderbolt, or leaning on his sceptre, presents the habitual art of governing the universe. Winkelman has judiciously observed that the Greek sculptors preserved the family resemblance in the Saturnian race, with as much exactness as if they had been real portraits; therefore Jupiter's brothers strongly partake of the same character, except that Neptune's countenance is more severe, and his hair more disturbed. Pluto's hair, hanging over his forehead, gives a gloomy cast to his countenance, which is increased by his more open and starting eye.

In the youthful beauty of Apollo, Bacchus, and Mercury, the same benevolence and wisdom are expressed, modified by their peculiar characteristics and offices;—Apollo is light and strong in his make; Bacchus more soft and luxurious; and Mercury more athletic. The peculiarity of Hercules is magnanimity, and unconquerable strength.

The heroes have a more simple character throughout, approaching nearer to common nature. The fauns may be ranged in the lowest class of beauty expressed in the human figure: although their persons are youthful and rather handsome, their proportions are shorter than those of the classes above named, and sometimes their muscles are turgid and tendinous, accommodated to their sylvan habits and activity; their rounded

faces have a portion of rustic good nature; but their united eye-brows, eyes placed diagonally to the nose, small hollowed noses, and grinning mouths, express some mixture of savage, servile, and mischievous dispositions.

The most engaging and captivating species of beauty exists in the female sex, this was expressed in perfection by the Greeks in their superior classes of statues; the large eye and full under-lip of Juno, gave an air of haughtiness to her countenance, her limbs are round, and her figure majestic. Minerva's figure partakes of Juno's majesty; but her face is not so full, and has an expression of abstracted wisdom. Venus is represented as an assemblage of female charms, her form is delicate, perfect, and elegant in the highest degree, her motion graceful, and her countenance expressive of love and sweetness:—a reference to the casts in this country, and the prints of the most celebrated ancient statues will convince the reader of the skill and general accuracy of these remarks of Mr. Flaxman.

BASSO RELIEVOS.

In treating of sculpture, those works which are arranged under the class of *basso relievos*, or low relief, must not be omitted; this is the representation of figures on a back ground, in such a manner that no part of them is detached from it: *alto relievo*, or high relief, is a modification of the same class, and has the larger parts attached to the back ground, whilst the smaller stand out free from it; to these two styles may be added a third species of relief, which was obtained by cutting or sinking, making the object represented below the plane of the original ground, a mode of working scarcely ever employed in modern times, but of which many specimens may be seen in Egyptian sculpture.

Basso relievo, although an important province of sculpture, is in a particular manner allied to architecture. As every considerable work of this kind must be made for the pediment, frieze, or panel of a building or architectural form, and, therefore, the general shape of the ground, the distribution and proportion of the figures must be subservient to the surrounding and containing parts, in order that they may produce a beautiful and perfect whole.

Basso relievo was originally used as pictorial writing, similar to, or the same as, hieroglyphics, and as such is com-

mon to all nations in the earliest infancy of the arts; but it was reserved to the Greeks to perfect this, as well as the other arts of design. The *basso relievos* which were used in filling the friezes and the tympanums, and were placed in the metopes of the great temples, executed during the time of Phidias and the other great artists, show that the art of sculpture in this department quite equalled that which was devoted to the production of entire statues: we have, fortunately, an opportunity of ascertaining the truth of this from the originals of the frieze and metopes brought from the Parthenon at Athens.* Some of the works of the earliest sculptors, on the revival of the arts in Italy, are in this style, and many of them are of great interest.

Donatello executed bronze basso relievos on the two pulpits of St. Lorenzo, at Florence, the two principal subjects of which, are the crucifixion and interment of Christ, in which the expression is admirable; but the work of this description that obtained the highest reputation, was the bronze gate, executed by Lorenzo Ghiberti, for the baptistery of St. John at Florence, consisting of ten compartments, filled with subjects from the Old Testament; the whole is of gilt bronze, and it was said by Michael Angelo "to deserve to be the gate of paradise:" from this period down to modern times, little which was excellent was executed in this style. It may be considered the pride of England, to possess the beautiful designs of Flaxman, from Homer, Hesiod, Dante, and Æschylus, rivalling in beauty and grandeur of com-

position the works of the best time of ancient art. But if we pride ourselves on this possession, it must excite regret and some feeling akin to shame, when we recollect, that notwithstanding the great sums expended in the patronage of art in this country, he is gone to his grave, without ever having, during a long life, been commissioned to execute any one of those fine compositions in marble. Thorwaldsen, the Dane, now at Rome, should be noticed as having been very successful in his designs and works in this branch of the art.

Various materials appear to have been used by the ancients, and even during the best period of art, in the formation of the same statue, particularly in colossal works. This mixture, however, is totally disapproved of by modern taste.

Exactness of imitation is more to be sought in sculpture than in painting; because, unassisted by colour, it is necessary that the requisites of imitation to the extent of form, should be nearly, if not entirely, complete, in order to create any conception of merit; but as the pleasure derived from sculpture is unconnected with deception, any attempt at colouring statues, or any artifice, such as adding real dresses, &c. must be offensive to a cultivated taste. That which is known to be mere trick, must lose all pleasure, when the surprise created by the deception is past. The Greeks, however, often composed one figure of different materials, such as brass and marble, ivory and gold, but not, probably, for the purpose of actual deception, or greater exactitude of imitation; they also, occasionally, put gems or silver in the place of the eyes. There are also not wanting authorities for supposing that they occasionally coloured their marble statues, to imitate life, but it is hardly possible to conceive with any advantage; though Mr. Flaxman, in his lectures, has supposed that in some cases a particularly beneficial effect might have been so produced.

There was a statue of Augustus in amber, and at the celebration of *funeralia*, as those of Sylla, at public exhibitions, or on other extraordinary occasions, statues are mentioned as having been made of aromatic gums, and materials of the most combustible nature; and amongst the odd conceits of the ancient artists, may be mentioned a statue of the all-powerful goddess of love and beauty made of loadstone, which attracted a Mars of iron! The combination of

* The chief of the marbles in the British Museum called the Elgin marbles, formed part of the ornaments of the temple of Minerva, or Parthenon, in the Acropolis at Athens, and afford an example of the judicious use of the three different species of sculpture. This temple consisted of the cella, or the interior space included within the wall of the temple; a row of side columns, and eight columns at each end; in the porticoes the frieze of the entablature is composed of Doric architectural ornaments called *triglyphs*, and of sculptured ornaments called *metopes*, the triglyph being over the centre of each column, and of each intercolumniation, and the metopes occupying the intervals, representing, in high relief, the combat of the Lapithæ and the Centaurs. The frieze of the cella was an uninterrupted series of sculpture, about thirty-six feet from the base, running round the upper part of the wall; this was about nine feet within the external row of columns, and represented in low relief a Grecian procession. In the tympanum of the pediment were placed perfect statues of a colossal size, the metopes, which, from their distance from the eye, required high relief, and the frieze which was within, and was lighted only from the intercolumniations, and was only seen from the ambulatory, was in low relief, as the violent projections of high relief seen from an acute angle, would have perplexed and defeated the artist's design.

different materials for the purpose of producing a variety of colours, either of drapery or ornaments, was termed polychromic (many coloured) sculpture, and those works which were composed of a variety of stone or marble, were, in like manner, called poly lithic (many stones).*

It would not be proper to close even this short account of sculpture, without referring to a branch of the art in which the Greeks excelled. Those who have been accustomed only to see the works of ancient statuary in which the ideal characters are represented, remain unacquainted with a very important and interesting class of works of ancient art, namely, the Greek coins and engraved gems. These afford specimens of the singular individuality and minute care with which the artists copied nature in their portraits, and many are nearly as admirable for their beauty and accuracy as the more important works of the statuary.

ANCIENT PAINTING.

The splendid models of antiquity have left no doubt of the perfection which the art of sculpture had attained, but the more perishable quality of pictures has prevented any such direct evidence reaching us with respect to the powers of the Greek artists in painting. We collect from the work on painting of Pliny the elder, (which was in a great measure compiled from the treatises existing in his time, and from his actual knowledge,) that the art of painting had attained an excellence equal to that of sculpture, and many eminent painters as well as sculptors are enumerated by him. Phidias, so eminent as a sculptor, was, as has been mentioned, also a painter; Apollodorus of Athens is noticed by Pliny as being the first whose painting fixed and absorbed the attention of the spectator, and as being the first who showed the method of discriminating with delicacy the various gradations of shade in painting, and hence obtained the name of the *shade painter*. Parrhasius also flourished about the same time, and contributed to the advancement of the art; his principal additions were the attention he paid to the symmetry of the human figure, giving improved expression to the countenance, and carefully finishing the extremities. The greatest painter, however, was Zeuxis; his most celebrated work was the picture of Venus

at Crotona, said to have been executed from a selection of five of the fairest virgins of that city. To these must be added, Aristides, Pamphilus of Macedon, Protogenes, and Apelles, who was the painter of Alexander the Great; who being employed by his master to paint Campaspe, became enamoured whilst taking her portrait, and received her as his reward, at the hands of the magnificent monarch.

Of course the expressions of authors as to the excellences of these painters, can only be relative, and furnish no direct criterion for a comparison with the works of modern artists. Much learned controversy has been employed as to the merits and demerits of ancient painting, yet with very few grounds on either side on which to found any arguments.

Although not possessed of any paintings of the great Greek masters, surely it may be inferred that those who had attained such excellence in the art of sculpture, who had discovered the secret of imparting such grace, such nature, such dignity to their statues, and who equally cultivated and admired painting, must also have attained a considerable eminence in that art; their excellence in sculpture may be fairly taken as a key to their standard of taste, with regard to painting.

It is, however, probable that they had not that knowledge of colours, which modern chemistry has furnished, nor was the art of painting in oil known, though Sir Joshua Reynolds (no mean authority on such a point) considers that an expression in Pliny as to the mode of painting, by Apelles, does in fact describe the effect of glazing and scumbling, such as was practised by Titian, and which implies a true taste in that wherein the excellence of colouring mainly consists. This interpretation of Sir Joshua Reynolds, on a subject purely technical, has been doubted by some critics, but the critics though learned, do not profess to be painters, or lay claim to any practical knowledge of art.

The only specimens from which we can form any decisive judgment, are the remains of pictures found in Herculaneum and Pompeii, and the frescos or paintings in the baths of Titus; with respect to the merit of the latter, it may be observed as a proof of their excellence, that it is well known, certain of them, on their discovery, were attributed to Raphael. Although these paint-

* Ency. Metrop. "Sculpture."

ings do not approach to modern art, in respect of their colouring and effect, yet some of them are admitted to be of the very first merit in design: and even these specimens, though they may be received as evidence of the advanced state of the art, cannot be considered as at all exhibiting a type of what probably was the excellence in painting of the great Grecian masters; they were the production of Roman or Greek artists after the art had declined. With respect to the paintings found at Pompeii and Herculaneum, these were small and unimportant country towns, and consequently not likely to possess even what might be regarded as specimens of the best state of the art of the period at which they were executed.

The passage in which Lucian invokes the aid of Polygnotus to accomplish his perfect woman, may be cited as evidence of what was then thought to be within the compass of the art. Polygnotus "shall open and spread her eyebrows, and give her that fine, glowing, decent blush which so inimitably beautifies his Cassandra; he likewise shall give her an easy and flowing dress, with all its delicate waving, partly clinging to her body, partly fluttering in the wind."

There is every reason to suppose from the minute descriptions of Pliny, Pausanias, and Quintillian, that in the essential parts of invention, expression, grace, and character, the painters rivalled the sculptors,—but in the modern invention of grouping, and the union and separation of groups, and in the modern accompaniments of perspective for representing the distance of given objects, in beauty of landscape and back ground, together with the extreme refinement in colouring, it is probable they were deficient. On these points the descriptions afford no grounds for conclusions. The attempts at back ground in the pictures of Herculaneum are generally puerile; and the most beautiful productions of ancient painting which have come to us, are figures relieved off plain grounds, or rather blended into them.

The decline of Grecian sculpture may be dated from the age of Lysippus. From that time no improvement took place, and though many beautiful specimens were produced after this period, they added nothing to the perfection or developement of the art. On the establishment of the Roman Empire in Greece, the Greek artists sought an asylum in Rome, and there continued to practise

sculpture, which was patronized by the Romans as a matter of luxury and ornament, not from the motives and with the feelings that gave rise to the excellence which the art had attained in Greece.

CHAPTER III.

On the Sculpture of the Romans.

THE progress of the arts has in all ages nearly corresponded to that of letters; the best works of art were in the best time of Grecian literature, and the merit of the ancient Roman sculpture, imitated from the Greeks, or executed by Greek artists, was nearly in the same proportion of excellence, as the works of the Roman authors bear to the works of the Greeks, which they imitated.

After the conquest of Greece, the collection of works of art became a passion and a luxury amongst the rich, and several of the Roman emperors were patrons of artists: amongst these Augustus, Trajan, Hadrian, and the Antonines were the most distinguished. The celebrated Torso Farnese, the group of Laocoon, and that of Cupid and Psyche, which have come down to our times, are by some considered as the productions of the times of the early Roman emperors. The works executed after the time of Augustus are chiefly portraits, which, though excellent in their kind, do not partake of the grandeur and invention of the great Greek masters.

Amongst the principal compositions of Roman sculpture, are the arches raised to *Titus, Trajan, Severus, and Constantine*. "They breathe," remarks Flaxman, "the spirit of the people they commemorate, which was conquest and universal dominion; they owe no inspiration to the muses, urge no claim to the epic or dramatic, they are the mere paragraphs of military gazettes, vulgar in conception, ferocious in sentiment; on the columns and arches, the principal objects are mobs of Romans cased in armour, bearing down unarmed, scattered Germans, Dacians, or Sarmatians, soldiers felling timber, driving piles, building walls or bridges, carrying rubbish, shouldering battering rams, killing without mercy, or dragging or binding captives." These just observations may, with equal truth, be applied to the taste which guided Napoleon in the choice of the monuments, such as

the brazen column in the Place Vendôme, which he selected to commemorate his triumphs.

CHAPTER IV.

On the Revival of the Art of Sculpture.

Statues and works of art were considered as articles of luxury, and were eagerly collected by the rich from the conquered provinces, but there are no productions, by known Roman artists, which can at all come in competition with those of Greece. As a proof of the ignorance and barbarous feelings of the Romans on the subject, Mummius, on the sacking of Corinth, said to those to whose care the specimens of art were intrusted to bring away, if they were lost, *they should be bound to replace them by new ones*. Caligula, who was a collector, displayed both his taste and knowledge, by ordering the heads of the gods and warriors to be struck off, and his own portrait stuck in their place. Works of art were, in fact, chiefly looked on as spoils to swell the triumph of the general. The rapacity of the Romans in plundering the conquered countries is particularly exemplified in the speech of Cicero against Verres, where he accuses him of not having left a single statue, gem, or any other specimen of art un plundered, and states that Syracuse under his government had lost more statues than it had soldiers in the victory of Marcellus.

Marcus Scaurus, when ædile, decorated his temporary temple with 3000 statues. Eleven thousand exquisite works of Greek and Etruscan sculpture adorned Rome in the time of her splendour; and Petronius, alluding to the taste for these ornaments and to the profusion of them, observes, that it was easier to meet a god in Rome than a man. The Townley collection, the Egyptian antiquities, the Elgin marbles, the casts of the Ægina marbles, the Phigalian marbles, together with the splendid and rare collection of Greek Coins in the British Museum, and the fine collection of casts at the Royal Academy, afford ample means for tracing the rise and progress of ancient sculpture. It is to be regretted that there has not hitherto been published some arranged catalogue of the works of ancient art which are accessible in this country, with such observations as might guide the student or the amateur in his inquiries.

THE fine arts continued gradually to decline with the Roman power, until they were included in the common destruction of everything that was great and civilized. From the fifth to beyond the tenth century, the works of ancient art became a prey to barbarism and superstition, and were buried under the ruins of those temples, forums, and palaces which they had adorned. During the long interval that succeeded the fall of the western empire, letters and the arts were equally neglected. As a proof of the completeness of the devastation, it is sufficient to observe, that on making excavations to get at the ancient buildings, the base of them has usually been found to be from ten to fifteen feet below the present surface, the whole of the overlying mass being composed of fragments of buildings, columns, statues, &c. It was at this time, that the fine architectural monuments of Rome were converted into fortresses by the contending barons. At the beginning of the fifteenth century, the city was so encumbered with ruined buildings, that two horsemen could scarcely pass abreast in any of the streets. Its state of destitution may be understood in the lamentation of Petrarch, "*That Rome was in no place less known than in Rome itself.*" So entirely were the monuments destroyed, that in the beginning of the fifteenth century, Poggio Bracciolini noticed only six statues amongst all the remains of former grandeur. Petrarch, who had done so much for the revival of literature, was also one of the first who shewed a taste for the ancient works of art, and was himself a collector of Greek and Roman medals. Rienzi also, who had formed the plan of regenerating his country, and restoring the ancient republican form of government, is supposed to have first conceived this idea, from the continued contemplation of its monuments of ancient grandeur.

Poggio Bracciolini, the discoverer of the works of Vitruvius, the friend of Lorenzo de Medici, and one of the most accomplished men of the age in which he lived, was also one amongst the earliest, on the revival of civilization, duly to appreciate the great merit of the works of antiquity, and like

his patron Lorenzo de Medici formed a collection of them. He writes thus to a friend: "My chamber is surrounded with busts of marble, one of which is whole and elegant, the others are indeed mutilated, and some are even noseless, yet they are such as may please a good artist. With them and some other pieces which I possess, I intend to ornament my country seat." Again, (writing to one who was commissioned to procure statues for him:) "Different persons labour under different disorders. That which powerfully affects me, is an admiration of those productions of eminent sculptors, to which I am, perhaps, more devoted than becomes a man who may pretend to some share of learning. Nature, it is true, must always excel her copies; yet I trust I shall be allowed to admire that art which can give such expression to inert materials, that nothing but breath seems wanting." Cicero, had a similar admiration of, and desire to possess whatever specimens of Grecian sculpture could be procured: this appears from his letters to Atticus, whom he commissions to buy for him all that were to be had, for the purpose of ornamenting his study and gallery; adding, I am so passionately devoted to these objects of refinement, that while all others blame me, you only give me any assistance.*

After the destruction of the Roman empire in the west, such of the Italian republics as were situated on the sea-coast, were, by reason of their commerce, the first to revive in power and riches; and many of the maritime towns of Italy were fast increasing in civilization before the regenerating warmth had reached Rome. The Venetians, as early as 1085, in rivalry of Sta. Sophia at Constantinople, built St. Mark's: Mr. Flaxman states, that the mosaic pictures in the interior, are from Greek paintings of the same age. The cathedral of Pisa was finished in 1092, and soon after this, those of Verona and some others were completed. The influence, however, of barbarism and superstition had continued the work of destruction in some parts of Italy, long after the arts had begun to be cultivated in more favoured spots: schools of

painting were established as early as the eleventh or twelfth centuries.*

It will be found, on a careful inquiry, that the elements as well as the perfection of the arts have always been received either immediately or immediately from the Greeks by Western Europe. But this has been denied by Vasari, and, as far as concerns the Greek Christian paintings, does not seem to have been even suspected by Winkelman, who was one of the most authentic and voluminous writers on works of art. In support of this very interesting point it is stated,† that the first beginning of modern art is not to be so absolutely reckoned from the commencement of the eleventh century, when society began to be settled in Europe, as from the reign of Constantine, when Christianity became the established religion of the empire. Then it was that painting and sculpture ceased to be employed on the Pagan gods, and their powers were engaged to adorn the churches built by Christian emperors with representations of the persons and events of sacred history.

The Christians, during the reigns of those emperors by whom they were persecuted, were obliged to perform their sacred worship in sepulchral chambers, which were ornamented with portraits and subjects from scripture; but when Santa Sophia and the church of the apostles were built, these were embellished by statues and mosaics: in proof of which *Bosius*, in his *Roma subterranea*, exhibits Christian sarcophagi sculptured with scriptural subjects. *Monier* also, in his history of painting, gives large quotations from the fathers concerning the excellent paintings of sacred subjects in the eastern churches from the fourth to the eighth centuries. Thus showing that though the arts were degraded, yet they continued to a certain extent, (for the purposes of religious ornament,) to be cultivated throughout that period, which was devoted to the destruction of the finer specimens of ancient art. There are still remaining in the libraries of the emperor of Austria and King of France, Greek paintings, executed in the middle ages, of great beauty; but beyond all the Greek painting and sculpture now existing, those of the *Nativity* in *Santa Maria Maggiore*, at Florence, the transfiguration, resur-

* M. Fuseli considers that it appears from Cicero's works, that, notwithstanding his admiration of art, he had little real taste for painting and sculpture; but having a general taste for nature, and with his usual acumen, comparing the principles of one art with those of another, he frequently scattered useful hints, or made pertinent observations.

* Flaxman's Lect.

† Ibid.

rection, and glorification, particularly deserve notice; because they are the examples as to the particular mode of treating these subjects, which were universally followed by the Italian artists, till after the time of Raphael and Michael Angelo.

These positions of Mr. Flaxman have been thus minutely stated, in order to remove a general and popular impression of the total extinction of art, and its sudden revival. M. D'Agincourt devoted a long period to researches in the catacombs at Rome, which had been formerly used by the early Christians, during the times of persecution, as places of worship, and which were, as before stated, ornamented with paintings and sculpture relating to religious subjects; and it is probable his splendid history of art during the middle ages, recently published, affords ample evidence to support Mr. Flaxman's opinions. We have not, however, been able to procure a copy of the original work for the purpose of consulting it.

It may be added that *Cimabue*, and *Fabius* his contemporary, both studied under Greek artists. Nicholas and John Pisani executed marble pulpits, enriched with *basso relievos* and statues, in several of the cathedrals in Italy, in the middle of the thirteenth century, in many of which (observes Mr. Flaxman) are occasionally seen an originality of idea and a force of thought seldom met with when schools of art are in the habit of copying from each other.

The next distinguished restorer of sculpture to be noticed was *Donatello*, a Florentine, "some of whose works, both in bronze and marble, might be placed beside the best productions of ancient Greece without discredit. "The bronze statue of a boy, in the gallery at Florence, is so delicately proportioned and so perfectly natural, that it is excelled only by the best works of antiquity in certain exquisite graces peculiar to the finest monuments of Greece, but which are not to be attained or expected from the endeavours of lately resurgent genius;" his marble statue of St. George also, is a simple and forcible example of the expression of sentiment and nature which the lifeless and formal figures of the earlier artists never attained; it stands upright, equally poised on both legs, its hands resting on the shield before it. Michael Angelo was so much struck by the excellence of this work, that, after admiring it

for some time in silence, he suddenly exclaimed, "MARCH!"

From the time of Donatello, (passing over some inferior artists,) we come to the period at which Michael Angelo began to study, and by his perseverance and genius carried the art of sculpture to the highest perfection which it has attained since the time of Phidias.

It may be interesting here to remark, that it is not, perhaps, generally known that England was almost the first, on the revival of the arts, to cultivate sculpture, and that we possess some of the earliest and finest specimens of the art. Sculpture, observes Mr. Flaxman, continued to be practised in this country with such zeal and success, that in the reign of Henry III. efforts were made deserving our respect and attention even at this day.

The cathedral of Wells was finished before 1242; the sculpture upon the west front of which presents the noblest and most useful and interesting subjects possible to be chosen; on the south side, above the west door, are alto relievos representing the creation in its different parts,* the deluge, and the important acts of the patriarchs. Companions to these on the north side, are alto relievos of the principal circumstances in the life of our Saviour. Above these are two rows of statues in niches, larger than nature, of kings, and queens, and nobles, patrons of the church, saints, bishops, &c. from its first foundation to the time of Henry III. Near the pediment is our Saviour coming to judgment, attended by angels and his twelve apostles. The upper arches on each side along the whole of the west front, and continued on the north and south ends, are occupied by figures rising from their graves, strongly expressing the hope, fear, astonishment, stupefaction or despair inspired by the presence of the Lord and Judge of the world in that awful moment.

In speaking of the execution of such a work, due regard must be paid to the circumstances under which it was produced, in comparison with those of our own times. There were at the period neither prints nor printed books to assist the artist: the sculptor could not be instructed in anatomy, for there

* One of these, the Almighty creating Eve, Mr. Flaxman considers as not inferior to the compositions on the same subject by the great Italian masters Giotto, Buon Amico, Buffalmacco, Ghiberti, and Michael Angelo, to which it is prior in date.

were no anatomists: a knowledge of optics, and a glimmering of perspective, were reserved for the researches of the genius of Roger Bacon, who lived some years afterwards; all knowledge of geometry and mechanics was absolutely confined to two or three learned monks; and the principles of these sciences, as applied to the figure and motion of man and inferior animals, were known to none! Therefore this work is necessarily ill drawn and deficient in principle, and much of the sculpture is rude and severe. Yet in parts there is a beautiful simplicity, an irresistible sentiment, and sometimes a grace excelling more modern productions.

It is very remarkable, that Wells cathedral was finished in 1242, two years after the birth of Cimabue, the restorer of painting in Italy; and the work was going on at the same time that Niccola Pisano, the Italian restorer of sculpture, exercised the art in his own country. It was also finished forty-six years before the cathedral of Amiens, and thirty-six years before the cathedral of Orvieto was begun; and it seems to be the first specimen of such magnificent and varied sculpture, united in a series of sacred history, that is to be found in western Europe. It is probable that the general idea of the work might be brought from the east by some of the crusaders. But there are two arguments strongly in favour of the execution being English; the family name of the bishop by whom the cathedral was built is English, (Jocelyne Troteman,) and the style both of sculpture and architecture is wholly different from the tombs of Edward the Confessor and Henry the Third, which were by Italian artists.*

The religious disputes and the undistinguishing persecution of the times of Henry the Eighth, caused the destruction in this country of many of our finest specimens of sculpture, and effectually checked its further progress. Had the popes of the fifteenth and sixteenth centuries been actuated by the same iconoclastic fury against the Greek and Roman superstition, as raged during that period in our country against modern works of art, we should have had to regret not only the destruction of our native specimens of art, but should have remained unacquainted with some of

the greatest wonders of Grecian genius. It is to be the more lamented that this check to the cultivation of the fine arts happened at a time which offered such extraordinary assistance to their progress, as the discovery of printing, the study of mathematics, anatomy, and perspective, which had become familiar, and which contributed towards the formation of the style of the great revivers of art in Italy. It is probable that but for the check received by the fanaticism of the times, these causes would have operated in a like manner in our own country; and that the times which brought forth Bacon and Shakspeare, might have also produced fit rivals of Da Vinci, Michael Angelo, and Raphael.

We have thus very shortly traced the rise and decline of the arts of sculpture and painting amongst the ancients, and the progress of sculpture during the latter part of the middle ages, to the time of Michael Angelo.* In order to complete the subject, there yet remain some few observations with regard to the revival of painting, and the principles and object of that art as contrasted with sculpture: these, and some remarks on the requisites of painting, will be more conveniently considered when we come to estimate the character of the paintings of the Sistine chapel. We shall now, therefore, resume the narrative of the life.

* Our limits did not admit of giving more than a few general observations respecting ancient art and the revival of sculpture. Those, however, who are inclined to further research, will find much general information in the articles "Sculpture" and "Painting," in Rees's Cyclopædia, and the Encyclopædia Metropolitana, Flaxman's and Fuseli's Lectures, and Count Cicognara's splendid work, "Storia della Scultura." 3 vols., folio, 1818, from which works our remarks have been principally collected. The work of Cicognara may be considered as forming a supplement to that of Mons. D'Agincourt on the Arts of the Middle Ages mentioned above. Winkelman's History of Ancient Art, and his other works relating to art, are learned, but for the most part dull and dogmatical, and throughout display far more erudition than either feeling or taste for the beauties of sculpture. Whatever knowledge of the latter he exhibits was obtained from Mengs, whose works on painting, and on the distinctions of the principles of the moderns from the ancients, may be read with advantage by the student. It is in a great degree to Winkelman, Mr. Fuseli considers, that Germany owes the shackles which fetter her artists, and the narrow limits of their aim; and that from him they have learnt to substitute the means for the end; and by a hopeless chase after what they call beauty, to lose what alone can make beauty interesting—expression and mind.]

CHAPTER V.

Continuation of the Narration of the Life of Michael Angelo to the time of his being employed in building St. Peter's.

WHEN the Medici were driven from Florence, Michael Angelo, fearing to be involved in their disgrace, by reason of his having been a retainer of the family, went to Bologna, and from thence to Venice; but not finding employment there, he returned to Bologna, where, having got into some difficulty with the police of the city, respecting a passport, he was assisted by F. Aldrovandi, one of the officers of that state, and by him employed in the execution of a statue for one of the public buildings:—for this he was paid thirty ducats. He remained with his new patron about a year, and might have stayed longer, as Aldrovandi was a lover of the arts, and delighted to employ him in reading Petrarch, Dante, and Boccaccio, on account of his Tuscan pronunciation; feeling, however, that his time was mispent, he returned to Florence.

The first work he executed on his return, was a sleeping Cupid. There existed then, as now, much prejudice in favour of the antique, and connoisseurs were often mistaken in their judgment, purchasing modern for ancient works of art. Michael Angelo was advised to send his statue, which was much admired, to Rome, to undergo the usual process of burial, and subsequent discovery and resurrection, that it might be passed off as an antique, and the price thereby enhanced. The fraud succeeded, and the sleeping Cupid was palmed off on the Cardinal St. Giorgio for 200 ducats, of which, however, the artist received but thirty; the price he originally demanded. The cardinal finding it was considered he had been duped in the purchase, sent a person expressly to Florence, to learn the truth or falsehood of the report. The messenger who went round to the studios of the different artists, under pretence of seeing their works, on visiting Michael Angelo amongst the rest, asked to see a specimen of his art; he answered that at that time he had nothing finished, but whilst conversing, took up a pen, and made a sketch of a hand. The cardinal's agent, struck with the grandeur and freedom of the style, inquired what was the last work he had completed.

Michael Angelo, not thinking of the *antique* which had been sent to Rome, said it was a sleeping Cupid, and so described the statue, as to leave no doubt as to the age of the cardinal's purchase. The messenger then owned the object of his journey, and recommended him to go to Rome, as the best means at once of cultivating his art, and obtaining patronage.

In consequence of an invitation from the Cardinal St. Giorgio, he went to Rome, where he remained under his protection for about a year, but as the Cardinal had no knowledge of art, he was never employed by him in the execution of any work.

His next two pieces of sculpture were a Cupid in marble, and a Bacchus; in the execution of the latter he was considered by many as having been eminently successful. After this, he cut a group, consisting of a Virgin and dead Christ, called by the Italians a *Pietà*, which his biographer, Vasari, highly praises, both for the design, execution, and the great knowledge of anatomy displayed in it. This was placed in a chapel in St. Peter's, and the artist hearing a party of Lombards, who were examining the works of art in the church, attribute it to one of their own countrymen, in order that he might not again be robbed of his fair credit, shut himself up at night in the chapel, and cut his name on a part of the drapery of the group.

After Peter Sodarini had been appointed to the head of the government, and the broils of party had begun to subside, Michael Angelo was induced again to return to Florence. It was during this period that he obtained permission to use a spoiled block of marble, out of which some other sculptor had begun to cut a statue, but which remained unfinished: from this, he cut his celebrated statue of David with a sling in his hand; the difficulty of the execution of which was much increased by the block not being entire. Vasari relates an anecdote with respect to this statue, which has often been repeated as an illustration of the style of criticism of ignorant pretenders; Sodarini, on going to view it, considering himself called on to make a remark, found some fault with the shape of the nose; Michael Angelo, however, rather than waste time in convincing him of his error, mounted the scaffolding, and pretended to chisel off the offending part,

without in fact touching it, contriving dexterously to drop from his hand some marble dust; as he proceeded, the fastidious critic declared himself satisfied with the improvement, and with this last touch the statue was pronounced complete.—For this work he received 400 ducats. He also executed a bronze statue of David for Sodarini, and was employed in some other works, particularly in the execution of a picture for one Agosto Doni, who was a collector of specimens of the fine arts; this work is stated to be the only authentic specimen now remaining of an easel picture by him. On sending it home, his servant, by his master's direction, demanded seventy ducats. Doni, thinking to get it for less, sent back forty; Michael Angelo returned the forty ducats, and insisted on having 100 ducats or his picture. Doni, to compromise matters, sent the seventy which were first required, but the painter replied that he would now have twice seventy ducats or his picture; Doni, knowing the value of the work, and the pertinacity of the painter, rather than lose it, sent the 140 ducats.

In some subsequent pages, we shall devote a short space to the consideration of the revival of painting, tracing the art up to the age of Michael Angelo. At the head of those who most conduced to the perfection of it will be found Leonardo da Vinci, whose various attainments placed him amongst the most remarkable persons of his time. Hitherto Michael Angelo had chiefly devoted himself to sculpture; and at the period when he was at Florence, Da Vinci, who was considerably older, had already attained the first rank as a painter.—Some jealousy had long subsisted between the two rival artists, and an opportunity was now afforded to them of making an effort which should decide to whom the palm of superiority was to be awarded.

Sodarini (whose admiration for the genius of Michael Angelo increased daily) determined to employ him to paint one side of the council hall of the government palace, and Leonardo da Vinci was, at the same time, directed to execute a picture for the opposite part. Da Vinci chose for his subject the victory gained by Anghiari over the celebrated Piccinino, the general of the Duke of Milan; the principal objects in the foreground were a *mêlée* of cavalry and the taking of a standard. This work,

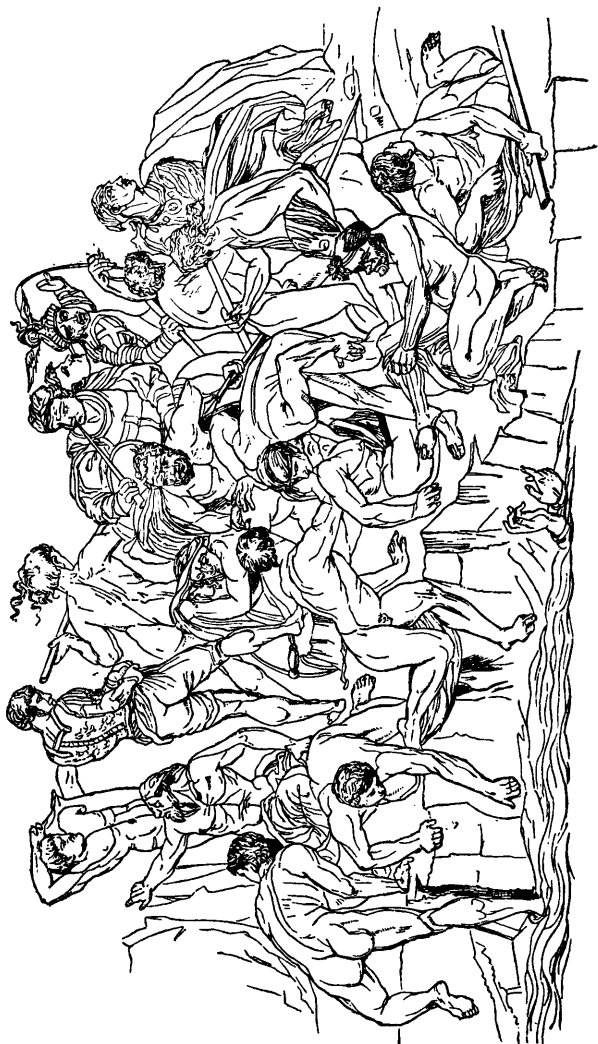
though it displays great excellence, and has been designated by an eminent critic as exhibiting "such talent as rarely occurs in the world," was by common assent admitted to be surpassed by the production of his rival. Buonaroti's subject was the battle of Pisa; in the historical account of the battle it was stated that the day on which it was fought was particularly hot, and that a part of the infantry was bathing quietly in the Arno, when on a sudden the call to arms was heard, the enemy being discovered in full march to attack the troops of the republic: the first impulse produced by this surprise, was the moment of time selected by Michael Angelo. Neither artist, however, executed the paintings, only the cartoons, or original drawings on paper representing the composition, having been prepared.

Benvenuto Cellini (who cannot be accused of being a panegyrist of Michael Angelo) says of this work, "The different attitudes of the soldiers suddenly preparing for battle, are so admirably expressed, that no work, either of the ancients or moderns, has attained such excellence: as I have said, the cartoon of Leonardo da Vinci was also very excellent; the one was placed in the hall of the pope, the other in the palace of the Medici, and whilst they remained, they formed the study of the whole world. Although Michael Angelo has since executed the pictures in the Sistine chapel, he did not exhibit half the talent which was shewn in his cartoon of the battle, nor did he afterwards produce any thing equal to this effort of his early genius."

Vasari particularly notices the expression of an old soldier, who, to shade himself from the sun's rays, had placed a chaplet of ivy on his head; he is sitting on the ground dressing himself, and the peculiar excitement and haste occasioned by the difficulty of passing his garments over his wet limbs, shewn by the strong marking of the muscles and an expression of impatience about the mouth, is described as unequalled. It was considered at the time the most excellent design that had ever been executed. All the celebrated painters of the day attended to make studies from it. The cartoon itself was, however, a few years after its completion, destroyed. Its destruction is attributed to the envy of Baccio Bandinelli, a friend and partisan of Da Vinci's, who is supposed to have got admission to the room where

it was kept, and to have carried it away piecemeal. After Sodarini was driven from the government, it was removed to an upper apartment in the Medici palace, where artists were freely admitted. Although nothing remains of the work itself, a small copy of most of the figures was executed at the

time, and is now at Holkham, the seat of T. W. Coke, Esq. This has been engraved in the gallery published by Mr. Foster, and a small outline sketch is here added to give an idea of that which in its original execution was considered the most masterly design ever executed.



On Julius the Second succeeding to the papal crown, he called around him the most learned men, together with the most eminent artists of the age. Michael Angelo was amongst the first who were invited to Rome, the pope having determined to employ him in the execution of a magnificent sepulchral monument, which he contemplated erecting in his life-time. From the original design, it appears that this was to have been a parallelogram of thirty-four by twenty-three feet, ornamented with forty figures, some of which were colossal; in addition to the figures, there were to have been a vast number of bronze and marble columns, basso relievos, and other architectural ornaments. If this work had been completed in conformity with the plan, it would have been the most splendid monument of the kind ever produced; a sketch of the original design has been published in Bottari's edition of Vasari.*

Although the execution of the figures would have given full scope to Michael Angelo's powers, yet as the chief part of the design was to have consisted of representations of Poetry, Painting, Architecture, and the provinces conquered by the pope, in attitudes expressive of their grief for his loss; it must have been deficient in sentiment, and like all allegories have failed in creating any real interest, beyond that excited by the excellence of the mechanical execution.

It became difficult to find a site suited for the reception of this intended work. San Gallo, the architect, suggested, that so considerable a monument was worthy of having a chapel built on purpose to receive it. Julius considering that it could not be well placed in the old basilica of St. Peter's, it was at last determined that the church itself should be rebuilt, and hence the origin of the present church of St. Peter's, the most stupendous structure that the art of man ever produced.

* Henry the Eighth, in the beginning of his reign, also conceived the same idea as Julius the Second; and ordered Torrigiano, the rival of Michael Angelo in the garden of Lorenzo de Medici, and who was employed to execute the tomb in the chapel of Henry the Seventh, to make a magnificent monument for himself and his queen.—Although this was not intended to be so large as that originally designed by Michael Angelo, yet in richness and number of figures, it would (if it had been executed) have much excelled it. It appears from the description in Speed, which was taken from a drawing approved by the king, that the height was to have been 27 feet, breadth 20 feet, the depth 15 feet, and there were to have been 133 statues, 43 basso relievos of gilt bronze, and 20 columns in the architecture, of porphyry, oriental alabaster, and serpentine marble.

"By those," observes Mr. Duppa, "who are curious in tracing the remote causes of great events, Michael Angelo may, perhaps, be found, though unexpectedly, thus to have laid the first stone of the reformation. His monument demanded a building of corresponding magnificence: to prosecute the undertaking, money was wanted; and indulgencies were sold to supply the deficiency of the treasury; a monk of Saxony opposed the authority of the church, and it is singular that the means which were employed to raise the most splendid edifice to the Catholic faith which the world had ever seen, should, at the same time, have shaken that religion to its foundation."

In order to procure blocks of marble fitting for the execution of the monument, Michael Angelo, who spent eight months at Carrara, sent a portion of what was requisite to Rome and the remainder to Florence, intending, during the unwholesome season at Rome, to execute some of the figures in that city. The marble was placed in the court in front of St. Peter's, and the pope, in order that he might be enabled to watch the progress of the work, had a covered way constructed from the Vatican to the study of Michael Angelo, who enjoyed his friendship and esteem, and whom he used frequently to visit.

Whilst at Carrara, he conceived the idea of executing a colossal statue, out of an insulated rock on the coast, at a point where it would have been seen by the vessels passing either from Genoa or Leghorn: it is said the same idea had occurred to the ancients, and some works in the rock are still shewn as having been the commencement of a similar design. The only colossal statue now existing, is the bronze one of St. Charles Borromeo, near Arona, looking over the Lake of Como, and those only who have seen this work, (the head of which is large enough to hold several persons,) can form any just idea of the probable effect which such a statue, by Michael Angelo, would have produced.

As the figures for the monument proceeded, they obtained universal admiration; but excellence and eminence are accompanied by envy. The favour shewn to Michael Angelo had early produced him enemies, and his disposition, which was independent, unsuspecting, and somewhat haughty, was not such as to guard him against their evil machinations,

By the pope's directions he always applied to him for the money requisite for the work; on the arrival of some marble from Carrara, payment for the freight being required, he went to the Vatican. —He found the pope engaged in state matters, and therefore returned home and paid for it with his own monies, thinking to be reimbursed immediately: on returning however to the pope, he was repulsed by a groom of the chamber, and refused admittance to his patron, apparently, nevertheless, not by the direction of Julius. He went home in anger, and, ordering his servants to sell off all his effects, fled immediately to Florence. When Julius heard of his departure, he dispatched five couriers, one after another, to induce him to return; but Michael Angelo, who had reached the Florentine states, and was thus out of the pope's power, refused to listen to them, though he was at last induced to return an answer, in which he stated, that having been repulsed with ignominy, he had determined to retire from his service, and seek employment elsewhere. Julius, being unsuccessful in prevailing on him to return, actually dispatched a brief to the Florentine republic, requesting that he might be sent back. These proceedings of the pope are a convincing proof of the estimation in which his services were held: —the document is so curious that we shall give it at length.

“Health, and apostolic benediction to our dearly beloved Michael Angelo, who has left us capriciously, and without any reason that we have been able to learn, is now in Florence, and remains there in fear of our displeasure, but against whom we have nothing to allege, as we know the humour of men of his character. However, that he may lay aside all suspicion, we invite him with the same affection that you bear towards us; and if he will return we promise on our part that he shall be neither touched nor offended, and be reinstated in the same apostolic grace he enjoyed before he left us.”

This brief was also disregarded by Michael Angelo, who hoped that the pope, not having an answer, might cease to think of the matter. On his return to Florence he proceeded to complete his cartoon of the battle of Pisa, which had been left unfinished; but in addition to the first letter, two others followed, and these were couched in a more authoritative tone than the former. Dreading the

anger of Julius, should he be compelled to return to Rome, he determined, in consequence of an invitation from Bajazet the Second, to proceed to Constantino ple, to superintend the erection of a bridge between that city and Pera.

Sodarini, however, at length, prevailed on him to listen to the pope's wishes, probably not feeling any inclination to involve the state in a dispute with the Holy See. To ensure him from any violence, he was invested with the title of ambassador from the state, and recommended to a cardinal, the brother of Sodarini, who undertook to introduce him to the pope, who had just then entered Bologna as a conqueror at the head of his army. Julius, angry and impatient at the opposition to his wishes, on receiving Michael Angelo, said, “What! instead of coming to me, you have waited till I came to you,” alluding to his being then at Bologna, which is near to Florence. He deprecated the pope's anger, and requested pardon for a fault which he had been excited to commit, under the impression that he had been repulsed with unmerited indignity. A bishop who, from the illness of Cardinal Sodarini, had been deputed by him to introduce the penitent to the pope, conceived this was a good opportunity to entreat the forgiveness of his holiness, urging that the culprit was ignorant of life, and of all but his art: this turned the tide in Michael Angelo's favour, and the unfortunate bishop was reproached by the pope for having dared to insult one whom he, the pope, even in his anger had never degraded; thus the audience ended with the hasty expulsion of the bishop and the reception of the artist into favour, who received the holy benediction, accompanied by a solid earnest of future protection.

Whilst at Bologna he was commanded to execute a bronze statue of the pope. When Julius went to inspect the model of this work, observing that he was represented with an air of severity, with one arm raised as giving the benediction, he asked the artist if he meant to make him giving a benediction or a malediction to the people. Michael Angelo dexterously answered that it was only intended to threaten them in case they did not shew obedience. On being asked whether he would have a book in his left hand, Julius (who had entered the city at the head of his army, and who had distinguished himself in many military

encounters) replied, No; a sword suits me better than a book, as I know more about the one than the other.

The pope returned to Rome, and Michael Angelo remained sixteen months to finish this bronze; but the people, unmindful of the pope's malediction, destroyed the statue as soon as his partisans ceased to have power in Bologna; and the pieces (except the head, which was long preserved in the museum of Duke Alphonso at Ferrara) were cast into a piece of ordnance, and christened Julia after the pope.

When this statue had been completed, Michael Angelo returned to Rome: here he was again thwarted by the jealousy of one of his rivals, Bramante, then the architect of St. Peter's, who, conceiving that the pope inclined more to sculpture than architecture, persuaded him to abandon for a while the completion of the monument, urging that it was ill-omened to prepare a tomb during his life. It was he who suggested to the pope that Michael Angelo should be employed in the painting the vault of the Sistine chapel, erected to the memory of his uncle Sixtus. Bramante's object in doing this was a hope that by these means Michael Angelo would be prevented from displaying his genius in that art in which he most excelled, and would, in the exercise of one in which he was almost unskilled, be brought in comparison with his relation Raphael, then just rising into eminence and favour at the papal court. Michael Angelo, at once desirous of completing the monument, and of avoiding the execution of a work in colours, an art which he had not practised, did all he could to persuade the pope to consign the ornamenting the chapel to Raphael.

Julius, whose temper was too eager and ardent to enable him to wait with any thing like patience the time requisite for the completion of the monument, which required much study and thought, was not sorry for an excuse to change the employment of Michael Angelo; and it is probable his independence and unbending manner were displeasing to a pontiff, little accustomed to opposition; this, and the frequent demands for money as the work proceeded, may have made him glad to find some reason for suspending the completion of the tomb.

When Michael Angelo found that he could not change the pope's determina-

tion, he set to work on his design in good earnest. Finding the scaffolding erected by Bramante unsuited to his object, he invented one of a superior construction and of great simplicity, which was adopted in the building of St. Peter's; and, as suggested by Mr. Duppa, is most probably the same admirable piece of machinery which is now used at Rome whenever there is occasion for scaffolding to repair or construct the interior of public buildings. He gave this invention to the poor carpenter who was employed to construct it, and who, by the profits derived from it, was enabled to raise a marriage portion for his two daughters. Unused to working in fresco, which is done by painting on the wet plaster so that the colour becomes incorporated in the wall, and requires much experience and practical dexterity, Michael Angelo met with many difficulties in the progress of his work, and at first sent for two artists from Florence to instruct and assist him, but these were soon dismissed, and the whole work executed by himself. Julius, who was old, and eager for the completion of whatever he had once planned, used frequently to visit the painting during its progress, and became so impatient to see the effect of the design, that, in order to gratify his curiosity, the scaffolding was by his order removed before the picture was finished; and so desirous were all to see the ceiling about which such expectation had been raised, that the area of the chapel was immediately filled, the pope entering even before the dust occasioned by the removal of the boards had cleared away. Vasari says, that Raphael on seeing this great work, changed his style, from the hints it afforded: this, however, is questioned by the partisans of that great painter. It is not, however, of much importance to consider how far it was correct: no one will be so hardy as to deny that in the art of design, the greatness of Michael Angelo's genius might have furnished hints for improvement even to so distinguished a master as Raphael.

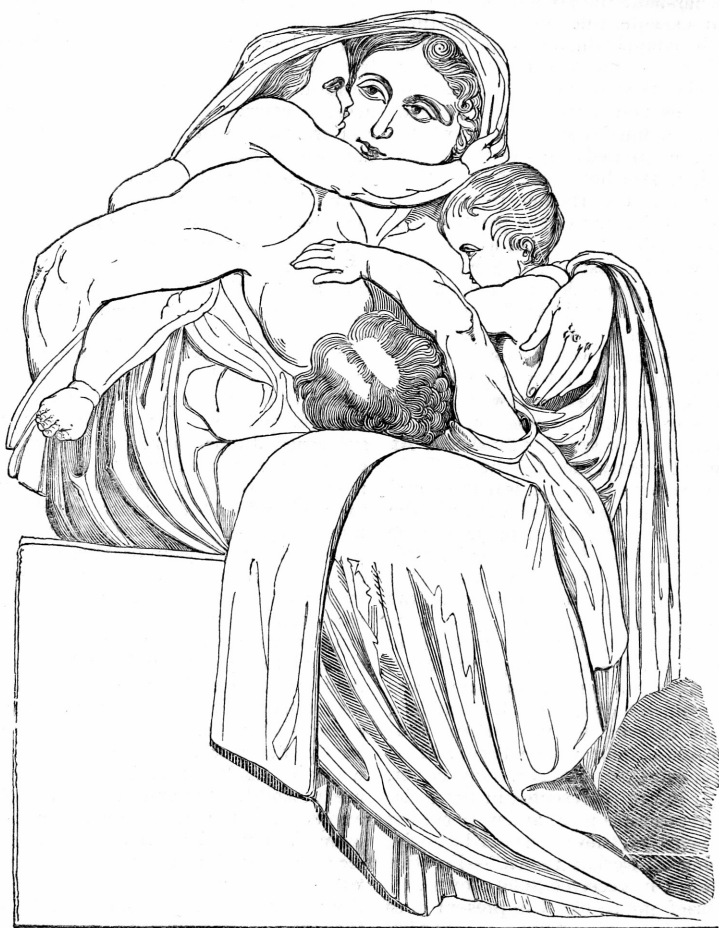
Bramante, if he had really conceived that he should lower the reputation of Michael Angelo, by compelling him to work at a branch of the art with which he had previously but slight acquaintance, must have been completely disappointed in his object. It is stated, however, that he tried to prevent Michael Angelo from completing the whole,

and to persuade the pope to allow Raphael to execute the designs for that part of the chapel which was unfinished. Julius however, more firmly than ever convinced of the powers of Michael Angelo, by this new proof which he had afforded, confided the whole work to him, and continued impatient for its completion. It is, however, probable that he did not, in the irritable temper and independent bearing of the painter, find so accommodating a spirit as he was accustomed to discover amongst his courtiers and dependents. The patron and artist were often at variance during the progress of the work, and for some impatient answer which he received from Michael Angelo, the pope threatened to have him thrown down from the platform on which he was painting, if the work was not speedily finished. At the end of twenty months the scaffolding was removed for the last time, and at length in possession of his wish, the pope on All Saints Day sang mass in the chapel. Michael Angelo thus hurried, had not put the finishing touches to some of the parts; but though he was permitted to do this, he left his work as it was, rather than have the scaffolding erected anew. When the pope suggested that there was a want of ornament and gilding which he wished to have added; Michael Angelo, feeling perhaps that this would impair rather than add to its grandeur, said, "No, holy father, those who are represented in these designs were simple men, and wore neither gold nor silver, they were poor but holy, despising all worldly riches."—For this great work he received 3000 crowns.

A brief notice like the present does not afford an opportunity of entering into any detailed description of these pictures; neither would any great advantage result from doing so. In a subsequent page, however, in considering the character of the different paintings of Michael Angelo, we shall give the opinion of Sir Joshua Reynolds and Mr. Fuseli on these works; authors, perhaps, more capable of appreciating their merit, than any who have yet written on the fine arts.

The size of our page does not enable us to give an idea of the various designs of which this great work consisted, but an outline is given of a single group in one of the compartments, representing *Charity*, which Mr. Flaxman pronounces to be the finest group, ancient or modern, ever designed.

Julius, whilst he patronised and richly rewarded his favourite, appears to have been a hard task-master, and to have treated him on more occasions than those already enumerated with harshness and caprice. This, the independent and irritable spirit of the artist could not brook, and the result was that he was more than once in disgrace. Just before his death, the pope ordered Cardinal Santi Quattro and his nephew the Cardinal Agnese to cause his mausoleum to be completed, though on a smaller scale than that which was originally planned; but Michael Angelo was again thwarted in his desire to finish this work which had been so long begun, and which would have been a splendid tribute to the memory of one who had been his patron. Leo the Tenth, who succeeded Julius, immediately after his accession employed him to go to Florence to execute a magnificent façade to the church of St. Lorenzo, which had remained unfinished from the time of his grandfather Cosmo de Medici. The cardinals intrusted with the superintendence of the monument, and the artist himself, for some time resisted the order; but the wishes of Leo were soon discovered to be commands, and Michael Angelo once more departed, even in tears, (as his friend Vasari states,) to Carrara, to superintend the procuring the marble for this new work. The only indulgence which could be procured was that he might, whilst at Florence, proceed in the execution of the figures for the mausoleum. When he had arrived at Carrara, Leo hearing that there were quarries within the Florentine dominions, where it was conceived marble equally good as that at Carrara might be procured, Michael Angelo was ordered to proceed to them in order to superintend the obtaining the marble, notwithstanding he represented that the quality was inferior, and that from the situation of the quarries it would be necessary that roads should be cut through both mountains and marshes for its transport. If the reader has felt regret that one so devoted to his art—one who had given such testimony of genius, should have met with so much opposition and found such little real encouragement, his feelings of disappointment will be increased when he learns that the great talents of Michael Angelo were during the whole reign of Leo, employed in the execution of that which probably would have been as well or even better performed by a



stone-mason. Eight years and some months, (being the whole pontificate,) were entirely spent at these quarries, and in petty disputes with the agents of the pope as to money. -

Historians, and particularly Mr. Roscoe, have given Leo more credit for his patronage of genius than, perhaps, he merited. With respect to Michael Angelo, it must be admitted that he reaped no benefit from the magnificence of him whom it has been the fashion to represent as the universal patron of genius. His title to this praise has been successfully impeached by Mr. Duppa, who observes, that when he ascended the papal throne, the arts in

Rome were in their meridian, that he found greater talents than he employed, and greater works commenced, than he completed; that those men who have been for succeeding ages the admiration of mankind, Leonardo da Vinci, Michael Angelo, and Raphael, executed their best works before his accession; and that Bramante, the architect of St. Peter's, died in the second year of his pontificate. Leonardo da Vinci is acknowledged not to have been benefited by his munificence; and, for the magnificence of the state chambers in the Vatican, posterity is indebted to Julius the Second, as those two rooms, which were painted by Raphael, which are his

greatest productions, were nearly completed at the pope's death.

It may indeed be questioned whether Leo the Tenth had any very refined taste for works of art, when it is considered that the cartoons which Raphael was employed by him to execute, were sent to Flanders, as patterns for tapestry; and that when the carpets were executed, no inquiry appears to have been made after the original designs, seven of which now form the most valuable specimens of art in this country; from the merit of these, the value of those which have been destroyed, may well be estimated: again, as to Leonardo da Vinci,—one qualified to stand in rivalry with Michael Angelo,—the painter of the Last Supper, it is even doubtful whether he visited Rome during the time of Leo, but it is certain he was at no time employed by him.

On the death of Leo, during the reign of his successor, Adrian the Sixth, the arts were no longer favoured at Rome: and Michael Angelo was allowed to employ himself in the execution of two statues, which were to form part of the monument of his patron Julius.

The Duke of Urbino, the nephew of Julius, impatient at the delay which had taken place in the execution of this work, sought to compel Michael Angelo to account for some large sums of money, which it was pretended had been received by him. The duke petitioned Adrian that he might be summoned to Rome for the purpose of rendering the required information. Giuliano de Medici, (afterwards Clement the Seventh,) who was at this time governor of Florence, had employed Michael Angelo to erect a library and new sacristy to the church of St. Lorenzo, to serve as a mausoleum for the Medici family: in order that he might be allowed to proceed with these, the governor interfered with the pope, and obtained permission that the artist should remain at Florence. He was in no danger of receiving from Adrian any new commission which would interrupt the progress of his works, as the pope was not only ignorant of, but hostile to the fine arts; and had even determined to destroy the paintings of the Sistine chapel, conceiving that they were more fitted for a bath than a church; and when the group of the Laocoon was shewn to him, he is said to have turned away, refusing to even look at the idols of the heathens. This pope, who was considered

by the Italians as a Flemish barbarian, died after a short reign of twenty months, to the great joy of the Romans.

Adrian was succeeded by Clement the Seventh, whose desire that Michael Angelo should proceed with the works at Florence which he had ordered, again interfered to prevent the completion of the monument. The complaints of the nephew, however, at length compelled the artist to return to Rome, in order to attempt some amicable arrangement with respect to these claims. The weakness, ambition, and crooked policy of Clement early involved him in ruin, and soon after his accession he was taken prisoner, and his capital plundered by the army of the Constable of Bourbon. Up to this period Michael Angelo had only to contend with the perversity and injustice of his patrons, and the jealousy and opposition of his rivals; in addition to these, he now found himself involved in the troubles of contending parties; and without coming to any settlement with the duke, he determined again to leave Rome for Florence, that he might proceed with the chapel and library of St. Lorenzo.

From the time when Soderini had been driven from the government, Florence became again subject to the rule of the Medici. When the ecclesiastical states were overrun by a foreign enemy, the Florentines began to entertain hopes of ridding themselves of their oppressors, and of obtaining a free government. For this purpose they were induced to join the Venetians, together with the Dukes of Ferrara, Mantua, and Urbino, who had united with England and France in order to oppose the growing power of Charles the Fifth. One of the first objects of Clement on the recovery of his liberty, was to reconquer the Tuscan states, the sovereignty of which was guaranteed to his family by the treaty of Barcelona. The Florentines, although unsupported by their allies, and abandoned to their fate by Francis the First, who was compelled to enter into the treaty of Cambray, maintained a gallant struggle for their liberty. When it was determined to fortify the city, Michael Angelo was appointed the military architect, or engineer to superintend the erection of the necessary works; and he, preferring the liberties of his country to the interests of the family of his patron, did not hesitate to accept the task.

His appointment to such an important

post is a proof of the high estimation in which his talents were held by his countrymen. Before commencing the necessary works, he went to Ferrara to inspect the fortifications, which were then considered to be the best in Italy. Whilst there, he was received by Alphonso Duke of Ferrara with great courtesy, who afforded him all the information and assistance which he required. The duke took the opportunity of his presence to request that he would execute some work of art for him, and on his return to Florence, notwithstanding his urgent occupations respecting the defence of the city, he commenced a picture of Leda, which Vasari describes as exquisitely beautiful. This painting it appears, however, never reached the duke, because, as is related by Michael Angelo's biographers, some one sent by the duke expressed dissatisfaction at the work, which induced the indignant artist to refuse to send it, and it was given, together with some models, to one of his attendants, who took them into France. The Leda afterwards came into the possession of Francis the First, but was nearly obliterated by the holy fury of a confessor in the time of Louis the Thirteenth. A French artist, who saw the picture at Fontainebleau after it had been injured, says the remains of it possessed much of the manner of Titian in the colouring, and in support of this it is to be remarked, it was not till after Michael Angelo's return from Venice, where he became acquainted with that great master's style, that he finished the Leda. The original cartoon or design for this work, was some years since brought to this country by Mr. Lock, and by him presented to the Royal Academy. During this period, in addition to painting the Leda, he proceeded with the figures for the monument in St. Lorenzo.

Michael Angelo appears to have displayed equal skill and patriotism in his conduct throughout the siege, and in all respects to have justified the confidence reposed in him by his country. The Florentines struggled bravely for the maintenance of their independence, and, aided by his skill, long defended themselves against the besieging army of the Prince of Orange, the general of Charles the Fifth. Having reason to doubt the good faith of some of the leading persons intrusted with the command of the defence, Buonaroti informed the authorities of his suspi-

cions, but the information was disregarded, and his warnings were attributed to timidity. Finding himself treated with contumely and contempt, and despairing of rendering assistance to those who were unwilling to serve themselves, he determined to withdraw secretly from Florence and go to Venice. He left the city in company with one of his scholars and a friend, and they carried with them 12,000 crowns in gold concealed in their cloaks. In passing through Ferrara he was recognised by the duke, who happened to see his name in the list of strangers which was kept by the police, and sending for him shewed him all respect, and by every kind of persuasion, joined to the offer of an honourable provision, endeavoured to induce him to remain at Ferrara, at least until the war was ended. He persisted however in his determination to depart, but not wishing to be outdone in generosity even by the duke, pointing to the cloaks of his companions where the gold was concealed, said that he had with him 12,000 crowns, which, if wanted, were at the duke's service. From Ferrara he proceeded to Venice, living as much retired as the importunities of those, who were desirous of doing honour to his genius, would permit. While there he is said by Vasari to have made, at the request of the doge, the design for the famous bridge of the Rialto, though it is now generally understood that the drawing from which the bridge was executed, was not the one made by him.

The Florentines soon finding their loss, followed him by entreaties to return to their assistance; and as concessions were made, and reparation offered for the indignities and slights received, he, at some personal risk, returned to his country, in order once again to renew the struggle for the maintenance of its liberty. The emperor, having effected a treaty with the Venetians, and all Italy except Florence having been restored to peace, was enabled to concentrate his forces: this, coupled with the treachery of the captain-general of Florence, hastened the downfall of the city, and a capitulation was entered into, in which there was provision for the preservation of life and liberty to those who had dared to defend their country against conquest and oppression. This treaty was explained as all such treaties are usually interpreted, where the strongest retains the power of dictating the terms

of its construction. The pope having attained the object of his ambition, soon found means, without breaking the letter of the treaty, to wreak his vengeance on those whom he hated, and who had opposed him. The offenders were not punished for opposing the power of the pope, the treaty protecting them in that respect; but they were found guilty on the pretext of having been *enemies to the republic!* Aware of his danger, Michael Angelo is said to have concealed himself for many days in the bell-tower of St. Nicholas to avoid the fury and the treachery of Clement. Some persons, however, state as a reason for the pope's especial anger against him, that he had proposed, during the defence of Florence, the razing the palace of the Medici. He was not mistaken in his view of the pope's clemency, for strict search was made for several days by order of Clement, who finding this unsuccessful, at last published a notice that he would let him remain uninjured, on condition he should proceed with the monument to the Medici. He was induced to confide in this assurance, trusting less to the good faith of the pope, than to his knowledge that it was Clement's eager desire the monuments and library should be completed.

There can be no doubt, from the accounts of both of his biographers, that Michael Angelo was constantly desirous of finishing the great monument to Julius which had been so long delayed; the orders and importunities of Leo the Tenth and of Clement, we have seen, had long prevented him from doing this, however he might wish it. The Duke of Urbino continued to urge him, and loaded him with unjust reproaches for having misapplied large sums of money received on account: this, on inquiry, turned out to be untrue, and the discovery had the effect of cooling the ardour of the duke, who found he should be obliged to contribute more funds. After much wrangling and negotiation, it was determined that the monument should be completed for the sum which had been actually received; and instead of an insulated work ornamented on all sides, on the scale originally proposed, the plan was altered and only the front façade was to be executed. The desire of Clement that he should proceed with the works at Florence, tended to facilitate this arrangement for the diminishing the work, as the pope's wishes, like those of Leo the Tenth, were considered by

all as laws. After much vexation and unjust treatment, it was stipulated that he should work four months at Florence and the remainder of the year at Rome.

On returning to Rome for this purpose, he received fresh orders from Clement, who commissioned him to make designs for painting the two ends of the Sistine chapel, the ceiling of which he had before painted under the patronage of Julius. Although he could not refuse the command, he delayed as much as possible making the cartoon of the Last Judgment, which was the subject chosen, whilst he proceeded by stealth with the statues for the monument. The death, however, in 1534, of Clement, released him from these commands. He then conceived the time was at last arrived when he should be at liberty to go on with the long delayed work; but even now he was disappointed. Paul the Third, the new pope, was no sooner elected, than he sent for him, expressing his desire that he should devote all his time to his service: this he declined, pleading his contract with regard to the unfinished monument. But Paul, who was old, and not willing to brook opposition, was not less determined to be obeyed than any of his predecessors. "What!" said he, "cannot I, now I am pope, command that which I have been wishing to attain for these thirty years! Where is this contract you talk so much about? I will tear it to pieces."

It appears, in order to rid himself of the importunity of the pope, Michael Angelo had determined to withdraw himself to Urbino, that he might in quiet complete the monument. Paul, however, was too eager for his services to let him thus escape; and early paid a visit of state, accompanied by ten cardinals, for the purpose of seeing all the statues which had been executed for the monument, and the sketches and cartoon for the Last Judgment. One of the cardinals seeing the statue of Moses, intended for Julius's tomb, in order to pay court to the pontiff, exclaimed, "This alone is enough to do honour to Pope Julius!" Paul again renewed his solicitations, and the Cardinal of Mantua, seeing that the cause of the artist's reluctance was the unfinished contract, undertook an arrangement with the Duke of Urbino, whereby only three statues were to be completed by Michael Angelo, and the rest were to be executed under his direction by others, he, how-

ever, paying the cost. Thus the plan and contract were changed for the fourth and last time, and Paul was enabled to gratify his eagerness to become the patron of the great artist. The monument to Julius, after all the various changes and the different impediments which have been noticed, was at last finished, and put up in St. Pietro in Vinculis. Of the seven statues of which it is composed, only three are the work of Michael Angelo, viz. the celebrated Moses,* and the two figures on the side personifying Virtue and Religion; the remaining four were the work of others. The other statues which were executed or begun for this monument were not used. The two which were completed are, or were, in the public collection at Paris; and the other four, which were only commenced, support the roof of a grotto in the Boboli gardens at Florence.

Paul, on the commencement of the painting of the Last Judgment, remunerated Michael Angelo by a considerable pension for life. The grant commences by stating that, "Wishing to remunerate you for the fresco painting representing the last judgment, in consideration of your labour and ability, which is an honour to our age; we promise," &c. This grand work was finished in 1541, and was opened at Christmas to the admiration of the world. In a future page, when considering the works executed by Michael Angelo, we shall lay before the reader the remarks both of Sir Joshua Reynolds and M. Fuseli on this picture, perhaps the most remarkable that was ever executed by any painter.

After the completion of the Last Judgment, the pope directed the painting in fresco of the walls of a chapel which had been built by San Gallo, and which was called the Pauline chapel. The subjects chosen were the Conversion of St. Paul, and the Crucifixion of St. Peter. The smoke of the tapers during the frequent celebration of high mass in this chapel, has so totally obscured these pictures that the subjects are now scarcely to be distinguished. These were the last works in fresco by Michael Angelo, then of the age of seventy-five years, who feeling his powers much diminished, complained to his friend Vasari that fresco painting was not a fit work for old men. Fuseli considers these as the dotage of his style, yet as possessing parts which

make that dotage more enviable than the vigour of mediocrity.

San Gallo was the architect generally employed by the pope, but Michael Angelo's experience during the siege of Florence, was the cause of his being consulted respecting some fortifications of the castle of St. Angelo, then in progress. From the consciousness of his talents, he appears to have given his opinion freely on the proposed plans; and this so completely proved them to be erroneous that the works were never completed. This freedom however led to many disputes and jealousies between the rival artists. Though his age prevented his continuing to paint in fresco, Vasari states, that he continued to work in marble, saying that he found the exercise of the mallet and chisel necessary to keep him in health. After his last painting he commenced a large group, the principal figure of which was a dead Christ: this, though never entirely finished, was taken to Florence and placed behind the great altar in the metropolitan church, where an inscription records that it was the last work in marble which he executed.

We are now arrived at that period of the life of Michael Angelo which is marked by his great work in architecture: he had already executed both in sculpture and painting the most extraordinary productions ever completed by any one man in any age; and at the age of seventy-five years was about, in a manner, to commence a new career.

What has hitherto been written has related to the painting and sculpture of Michael Angelo, we shall next have to consider him as an architect, particularly as regards his share in the construction of St. Peter's. Before, however, entering on this, we shall make some general observations on his works in sculpture and painting, prefacing these with a few remarks on the revival of painting in Italy.

It is not perhaps generally known that we possess in this country an unfinished bas relief by Michael Angelo, cut in marble; which was purchased in Italy by the late Sir George Beaumont, and by him bequeathed to the Royal Academy. It is of a circular form, consisting of three figures, representing the Virgin, the Infant Saviour, and St. John; it is composed with much grace. A small outline of this is added from a drawing made by the leave of the President of the Royal Academy. We may here be

* A sketch of this figure is given in the frontispiece to this memoir.

permitted to regret, that some arrangement could not be made by which this, the cartoon of the Leda before noticed, and other valuable works possessed by the Academy, might be rendered generally accessible to the public. M. Ottley possesses a picture in distemper and a bust, both of which, according to his opinion and that of M. Fuseli, were executed by Michael Angelo.



CHAPTER VI.

On the revival of Painting in Italy.

THE notices contained in the works of several of the most distinguished of the Italian historians, prove that there were painters in Italy during the dark ages, and Rome still possesses several specimens of art which prove this. Lanzi, in his history of painting in Italy,* adduces in proof of this statement, amongst others, the two vast works unrivalled by any others in Italy. The first is the series of popes, which, in order to prove the succession of the papal chair down to the time of St. Leo, this pontiff caused to be painted; a work of the fifth century, and which was subsequently continued until our own time.

The second is the decoration of the whole church of San Urbano, where there are several evangelical acts represented on the walls, along with some histories of the tutelar saint and St. Cecilia, a production which Lanzi considers as not partaking either of the Greek lineaments or style of drapery, and which, he says, may justly be attributed to an Italian pencil: this has subscribed

upon it the date of 1011. The evidences afforded by the catacombs at Rome of the continued existence of art during the early ages has been already noticed.

The painters, however, of those times produced little else than mere mechanical efforts, chiefly following the examples afforded by the Greeks, and it was not till the improvement in sculpture, in the middle of the thirteenth century, that any sensible progress in painting is really discoverable.

Though the principal share in the honour of the revival of the arts is due to Tuscany, the Pisans led the way; as they were the first to throw off the trammels imposed by the Greek artists, and first began the study of the ancient monuments of Greek and Roman sculpture, and from these drew the true principles of art.

The improvement in sculpture was followed by that of the art of executing designs in Mosaic by Fra Jacopo, or Fra Mino da Turrata, also a Tuscan.

Lanzi says it is not known whether he was instructed in his art by the Romans or by the Greek workers of Mosaic; but that it is well ascertained he far surpassed them, and that on examining what remains of his works in Santa Maria Maggiore, at Rome, one can hardly be persuaded that they were the production of so rude an age, did not history constrain us to believe it; adding, that it appears probable he took the ancients for his models, and deduced his rules from the more chaste specimens of Mosaic still remaining in several of the Roman churches, the design of which is less crude, the attitudes less forced, and the composition more skilful than were exhibited by the Greeks, who ornamented the church of St. Mark at Venice.

It is common to date the revival of the art of painting in Italy from the time of Cimabue, but the facts stated by Lanzi and several other modern writers, fully prove that before his time there were not only painters in Italy who had made some progress in the art, but that Pisa had a school for each of the fine arts as early as the end of the eleventh century. Guinta, a Pisan, and Guido da Siena were amongst the most important artists, who appeared before the time of Cimabue, and who distinguished themselves by abandoning the tame and formal manner of the Greeks; in which one artist appears to have been content with an imitation of his prede-

* The materials for this chapter have been compiled from the translation by Mr. Thomas Roscoe, of the work of Lanzi, by far the most complete and satisfactory history of painting in Italy which exists.

cessor, almost with the same precision as was observable in the works of the Egyptians.

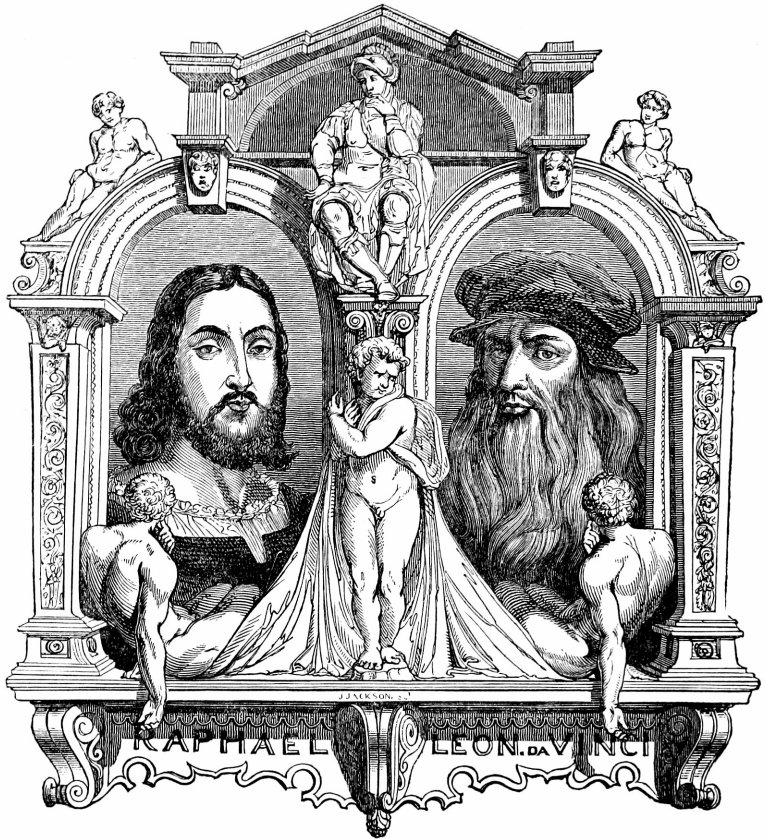
Giovanni Cimabue was both a painter and architect, he was born about the year 1240. Although it appears probable he originally studied under the Greek artists, who had been invited to Florence, yet he early deviated from their manner. Lanzi observes, he consulted nature, corrected in part the rectilinear forms of his design, gave expression to the heads, folded the drapery, and grouped the figures with much greater art than the Greeks. His talent did not consist in the graceful; his Madonnas had no beauty, his angels in the same piece have all the same forms. Wild as the age in which he lived, he succeeded admirably in heads full of character, especially in those of old men, impressing an indescribable degree of bold sublimity, which the moderns have not been able greatly to surpass. Vast and inventive in conception, he executed large compositions, and expressed them in grand proportions.

Giotto, another name eminent amongst the early painters of Florence, was a shepherd-boy; a sheep drawn by him from nature on a stone attracted the notice of Cimabue, who happened to see it as he was passing; Cimabue, with the consent of Giotto's father, took him to Florence for instruction. Giotto commenced by imitating, but quickly surpassed his master; through him, symmetry became more chaste, design more pleasing, and colouring softer than before: the meagre hands, the sharp pointed feet, and staring eyes, (remnants of the Grecian manner,) all acquired more correctness under him. If Cimabue is to be considered as the Michael Angelo of his age, Giotto was the Raphael. There is much learned controversy as to the share to which the two great Florentine artists, Cimabue and Giotto, are entitled as the founders of the modern school of painting in Italy. The impartiality and ingenuity with which this question has been investigated by Lanzi, entitles him of all others to the merit of being the best authority, and he decides that the improvement in painting is not due to Florence alone; that the career of human

genius in the progress of the fine arts is the same in every country: That when the man is dissatisfied with what the child learned, he gradually passes from the ruder elements to those which are less so, and from thence to diligence and precision, afterwards advancing to the grand and select, at length attains facility of execution. Such was the progress of the fine arts in Greece, and such has been that of painting in Italy.

The Pisani (one of whom has been before noticed as a sculptor) and their scholars preceded the Florentine painters, and diffused a new system of design over Italy. It would be injustice, observes Lanzi, to overlook them in the improvement of painting, in which design is of so much importance, or to suppose that they did not signally contribute to its improvement; again, if all the early Italian painters were to be exclusively derived from the two Florentine masters, every style of painting ought to resemble the style of those masters, yet in examining the old paintings of Siena, of Venice, of Bologna, and of Parma, they are found to be dissimilar in idea, in choice of colouring, and in taste of composition.

Lanzi's second proposition is, that if the improvement of painting was not solely due to the Florentines, yet no people excelled or contributed by example so much to the progress of art as they did; that Giotto was as much the father of the new method of painting, as Boccaccio was the father of the new species of prose composition; after the time of the latter any subject could be elegantly treated of in prose; after the time of the former painting could express all subjects with propriety. A Simon da Siena, a Stefano da Firenze and others, added charms to the art, but that they and others owe to Giotto the transitions from the old to a new manner. The services of Giotto were sought by the greatest potentates and families in every part of Italy, and after his death the same universal applause followed his disciples throughout Italy:—thus becoming the model for the students during the fourteenth century, as was Raphael in the sixteenth, and the Carracci in the seventeenth century.



CHAPTER VII.

The revival of Painting from the time of Cimabue and Giotto to that of Leonardo Da Vinci, M. Angelo, and Raphael.

THE works of the Italian writers on the fine arts are filled with long disquisitions on the causes which are supposed to have led to the improved style of Giotto ; each party advancing some particular reasons for his theory, though it is evident that the true cause was the discovery and study of the specimens of ancient Grecian sculpture. The effect of these on the productions of the Pisani, and others, (among the first who improved modern sculpture,) is sufficient to show that they were also the principal cause of the change of style in the arts of design and painting. A slight inspection of the works of Giotto manifests how much he was indebted to the newly-found monuments. The secret once discovered, it only required the

genius of such a painter to attain excellence. It was not, however, in the Florentine school alone that this improvement is discernible ; an examination of the early pictures of the schools of Siena, Bologna, and Parma sufficiently shows that a similar cause was operating nearly at the same time in different places ; and the progress of the art was rapid and universal throughout the whole of Italy.

The genius of Giotto, however, formed an era in the rapid advance of the Florentine school ; his example incited others to exertion, and his disciples, by availing themselves of his discoveries, and following in his track, assisted in diffusing a knowledge of his principles and improved method ; thus laying the groundwork for still higher perfection in the art, though in the capacity of humble imitators of his style.

Amongst the most important of the successors of Giotto, was Masaccio (Maso di S. Giovanni), a name which

forms an æra in the history of art. His principles were founded on the works of Ghiberti and Donatello; he had acquired perspective from Brunelleschi, and had long studied the remains of ancient sculpture at Rome. From his works, it is apparent that he had made a great advance in diversifying the positions and characters; and in foreshortening his figures he appears to have studied the anatomy of the body more carefully than his predecessors. The expression of his heads is often graceful and elegant; he exhibits considerable freedom and simplicity in the folds and arrangement of his drapery, and much truth, variety, and delicacy in his colouring. His pictures became the study of all the best artists in his own time, and in that of Pietro Perugino, and of his great pupil Raphael. This artist died in 1443.*

Amongst the imitators of Masaccio, one of the most eminent was Ghirlandajo, the artist in whose school Michael Angelo studied; his works exhibit clearness and purity of outline, correctness of form, considerable invention and facility of expression; and he is considered by Mengs as the first Florentine who, by means of true perspective, was successful in grouping and in depth of composition.

These labours of the Tuscan painters bring us to the beginning of the sixteenth century, when much that was excellent in art had been attained by the careful study and imitation of nature, which had the effect of imparting more variety and life, especially to the heads. Indeed, the artists of later times have not much surpassed their predecessors in this respect. The whole, however, that was accomplished, amounted to little more than a careful imitation; ideal beauty, fulness and grandeur of design, harmony of colouring, aerial perspective, and variety and freedom, were still wanting, in order to carry the art to the perfection which it subsequently attained.

The taste for magnificent edifices having revived throughout Italy, many of the most splendid of those public and private buildings, which still remain at Rome, Florence, Milan, Mantua, and Venice, were erected about this period. The demand for ornamental architecture, as well as for interior embellishments, necessarily created a spirit of rivalry

and emulation amongst the artists of the times, and not only tended mainly to the advancement of the art, but probably called into action powers and genius which, at a less fortunate period, would have remained dormant. The schools of Italy, before this attainment of excellence by mutual emulation, strongly resembled each other, but having arrived at maturity, each began to display a marked and peculiar character. This soon became more conspicuous, from the introduction into Italy, about the middle of the fifteenth century, of the art of painting in oil, which enabled artists, in their smaller works, to obtain more brilliancy and depth. The invention of the arts of engraving on copper and wood was also one of the great causes of the advancement of design, by spreading over the whole of Europe the compositions of the great masters, whose works, till then, had been confined to a single spot.

Of the three great artists, whose genius was to bring to maturity all that was excellent in painting, and to expound and simplify the rules of art to their successors, Leonardo da Vinci appeared the first. He was born in 1432, twenty-three years before Michael Angelo. His biographers concur in representing him as "endowed by nature with a genius uncommonly elevated and penetrating, eager after discovery, and diligent in the pursuit not only of what related to the three arts dependent on design, but to mathematics, mechanics, hydrostatics, music, and poetry. He was versed also in the accomplishment of horsemanship, fencing, and dancing. His manners were polished and affable, fitting him for the society of the great, with whom he lived on a footing of familiarity and friendship."

In addition to his great attainments as an artist, he was distinguished as a scientific writer; he was a discoverer in optics and mechanics; his hydraulic works on the Adda, which he rendered navigable for two hundred miles, continue to the present day monuments of his mechanical science. Some general observations contained in his writings, upon the inductive method of philosophizing, are almost couched in the same terms as were the great aphorisms which, in the succeeding age, rendered the name of Bacon immortal.

"Experiment," says he, "is the interpreter of the secrets of nature; it never misleads us. Though our reason may sometimes deceive itself we must con-

* The celebrated epitaph on Sir C. Wren, in St. Paul's, was borrowed from that on Masaccio, which is in the Carmelite Church in Rome, the walls of which he had painted in fresco.

"If any one seeks to know my tomb, or name, this church is my monument," &c.

sult experience; and vary the circumstances in our experiments until we can draw from them general rules, for it is from hence that these rules are to be derived." Again, "I am about to treat of a particular subject; but first of all I shall make some experiments; because my plan is to appeal to experience, and from thence to demonstrate why bodies are compelled to act in a certain manner. This is the method to be pursued by such as would investigate the phenomena of nature." His different memoranda on art abound with very useful observations on the mechanical powers and muscular action of the human frame. He was originally taught by Verrochio, an artist of some eminence; he soon, however, surpassed his teacher, though it is remarked that he retained through life traces of his early education, and that, like his master, he designed more readily than he painted; and that in his designs and countenances he seems to have prized elegance and vivacity of expression more than dignity and fulness of contour.

His mode of painting may be divided into two styles,—one abounding in shadow, which gives admirable brilliancy to the contrasting lights; the other more quiet, and managed by merely having recourse to middle tints. In each, the grace of his design, the expression of the mental affections, and the delicacy of his pencil, have not yet been surpassed, or perhaps equalled. He appears, however, to have been more solicitous to advance his art than to multiply his pictures; a kind of timidity, and fastidiousness,—a longing after an excellence which he considered he could not attain—appear often to have induced him to leave his works unfinished, not being able to arrive at that truth which he considered necessary to perfection. In addition to his merit as a painter, he was eminent as a sculptor.

His life is usually divided into four periods; the first during the time he remained at Florence. The second was whilst he was at Milan, where he was invited by Ludovico Sforza, and where he is represented to have delighted every one by performing on a silver lyre (a new instrument of his own construction) no less than by his eloquence and his poetry. Here he remained till 1499, absorbed in abstruse studies and in mechanical and hydrostatical labours for the state. The seventeen years he spent at Milan, were after he had attained the maturity both of his age and fame, as he did not leave

Florence before he was thirty. Whilst there, however, he painted little except his celebrated picture of the Last Supper; but, during this period, he raised the school of Milan to great eminence by superintending an academy of the arts, which produced illustrious pupils.

This, and the production of his Last Supper (one of the greatest triumphs of art), render his stay at Milan one of the most important periods of his life. This picture* is well known to all who take the slightest interest in the fine arts, by the celebrated engraving of Raphael Morghen. The picture itself has long been destroyed, but we are fortunate in having in this country (in the possession of the Royal Academy) a very fine copy of it by Oggione, and Sir Thomas Lawrence succeeded in collecting, at a great price, the studies made, as he conceived, by Da Vinci, for the different heads. After the misfortunes of Sforza, Leonardo returned to Florence, and during the thirteen years he remained there, painted some of his best works; and it was at this time that he executed the Cartoon of the Battle, which was designed to rival the work of Michael Angelo. He went to Rome at the time Leo X. became Pope, but remained there only for a short time; and it is stated that it was his procrastinating disposition and disinclination to finish his works, that caused Leo X. to withhold from him his patronage.

* The history of the misfortunes which led to the destruction of this picture are curious—it was originally painted in oil instead of fresco; and from some defect in the oil or plaster, it soon peeled off, and was at various times retouched and repainted. The refectory of the convent in which it was painted was low and damp: the friars having no great esteem for this production, the middle of the wall on which it was painted being in a line with their kitchen, a door-way was cut through the picture. The chief destruction took place in 1770 by one Mezza, who actually scraped off all the remaining outlines of the picture, and restored heads of his own in all the figures. And in 1796, when the French occupied Milan, the refectory was first a barrack and then for some years a magazine for forage; but notwithstanding this, in the year 1828, we saw a painter mounted upon an immense scaffolding, copying for some crowned head, with great care, this mere ghost of its former greatness. All that is known in reality of the picture is collected from tradition; and through the medium of several excellent copies, some of them by artists of note, who studied the original in the day of its greatest preservation. The one from which the celebrated engraving by Raphael Morghen was taken is from a fresco painted by Marco d'Oggione, in 1514, at the refectory of a suppressed convent at Castellazzo, assisted, however, by sketches of Leonardo.

It is remarkable that two judicious critics in this country have both mistaken the subject entirely. Mr. Addison calls it the Feast at Cana; and Mr. Roscoe considers the Saviour as in the act of dispensing the elements of bread and wine, and founding the Sacrament of the Supper,

Francis I., who had seen the painting of the Last Supper at Milan, became desirous of possessing so eminent an artist; and although Da Vinci was then an old man, he invited him to his court.

The rivalry which existed between Da Vinci and Michael Angelo, and, the fact that the latter was preferred to him both at Rome and at Florence, probably induced him to quit his native country with little regret, particularly as, by withdrawing from all cause of excitement and irritation, he was enabled to consult his own ease and happiness. He accordingly went to France, where, however, he expired in 1519, in the arms of his royal patron, before he had employed his pencil in his service.

Raphael de Santi, or Sanzio, the third and last of the great triumvirate, was the son of an inferior painter, and was born at Urbino in 1483. He was early placed at Perugia, under Pietro Perugino, an artist of considerable celebrity, and whose style he in a great measure adopted in his early works; but, like his great contemporaries, he soon surpassed his master, abandoning the stiffness of his draperies, his dryness and harshness, and animating with spirit the gestures and countenances of his heads. The bent of his genius was towards the voluptuous and graceful, and led him to that ideal beauty, grace, and expression which may be considered as the most refined and difficult province of painting. Whilst at Rome he principally studied the remains of Grecian sculpture, by which he perfected his knowledge of the art; and he also devoted much time to the study of the ancient buildings in that city. He studied six years under his relation Bramante, the architect, in order that at his death he might succeed him in the management of the building of St. Peter's. A vivid apprehension, a sort of fervour in seizing the sudden expression of passion, and a facility of execution, seem to have marked his earliest works. The career of Raphael was, however, as short as it was brilliant; yet a careful investigation of his works, in the order of time in which they were executed, shew, even to a common observer, the continued and rapid improvements he made in the highest branches of his art; whilst Da Vinci appears to have been almost paralyzed by hesitation and doubt, and to have been in a constant state of balance betwixt his notions of elaborate finish and want of perseverance. He left behind him but few works

during a life of eighty-seven years; whilst Raphael, who died at thirty-seven, in the full vigour of life, left an infinite variety of pictures*. The last, and, perhaps, greatest effort of his genius, is the Transfiguration. Mengs observes, that this contains more excellencies than any of his numerous works. It is well known by the various celebrated and costly engravings which have been made of it. We hope, however, at no very distant period, to furnish engravings of this and others of the most celebrated productions of the great masters, at a price which will enable the most humble to obtain them; so that we may be enabled, by thus diffusing the knowledge, to raise the standard of taste for works of art.

In speaking of the three great masters of painting, who, together, appear to have attained every degree of excellence of which the art is susceptible, the name of Fra Bartolommeo must not be omitted, even in this short notice. "He," observes Fuseli, "first gave gradation to colour, form and masses to drapery, a grave dignity, till then unknown, to execution. If he were not endowed with the versatility and comprehension of Leonardo, his principles were less mixed with base matter, and less apt to mislead him. As a member of a religious order, he confined himself to subjects and characters of piety; but the few nudities he allowed himself to exhibit shew sufficient intelligence and still more style. He foreshortened with truth and boldness, and wherever the figure did admit of it, made his drapery the vehicle of the limb it invests. He

* Raffaello Sanzio was one of the geniuses the most favoured by nature, to whose development the culture and taste of the age, the society of the great men then living, the wise magnificence of princes, and the progress of his predecessors in the fine arts equally contributed. He was inferior to Michael Angelo in the knowledge of the human machine, and in the art of executing possible subjects; but he was superior to all in the execution of subjects of fact, in which he carried the expression of the passions and feelings of the soul to perfection. Thence as Buonaroti strikes the mind, compels it to think and to admire, Raffaello goes straight forward to the heart, overwhelming it with a magical delight, and obliges it to feel, though uneducated and unused to the language of the fine arts. Recognising, however, the excellence of both, each in his line, as men have more heart than mind, and are more touched by fact than by the possible, though sublime, Raffaello has, for three centuries, been deservedly considered as the prince of painting; and if men were differently formed, the crown of supremacy would belong to Michael Angelo. Raffaello was a good architect; he commented Vitruvius, and he is thought to be the author, at least as far as the substance of it, of a beautiful letter to Leo X., on the manner of drawing copies of the antiquities of Rome. He also directed, and perhaps modelled, the statue of Jonas, which is still in Rome at the Museum of the Vatican.

was the true master of Raphael, whom his tuition weaned from the meanness of Perugino, and prepared for the mighty style of Michael Angelo.

"Whilst Michael Angelo, Da Vinci, and Raphael had thus raised the character of the Tuscan, Roman, and Lombard schools, Giorgione (Giorgio Barbarelli) first, and then Titian (Tiziano Vecelli,) about the same period, displayed in their works the more alluring charm of colour, thus founding what has been termed the Venetian school. To no colourist did nature unveil herself with that dignified familiarity in which she appeared to Titian. His organ, universal and equally fit for all her exhibitions, rendered her simplest and her most compound appearances with equal purity and truth. He penetrated the essence and the general principle of the substances before him, and on them exhibited his theory of colour." *

The last great advance in art was made by Correggio (Antonio Allegri); he it was who attained that peculiar harmony and grace, which had never before been so fully and strikingly developed; and added a magnificence of breadth and of relief which has been exhibited only by himself. "The harmony and the grace of Correggio are proverbial; the medium by which breadth of gradation unites the two opposite principles—the coalition of light and darkness by imperceptible transition, are the elements of his style: this inspires his figures with grace, and to this their grace is subordinate. The most appropriate, the most elegant attitudes were adopted, rejected, perhaps sacrificed, to the most awkward ones, in compliance with this imperious principle. Hosts vanished, were absorbed, or emerged in obedience to it. This union of the whole predominates over all that remains of him, from the vastness of his cupolas to the smallest of his oil pictures. The harmony of Correggio, though assisted by exquisite hues, was entirely independent of colour; his great organ was light and shade in its most extensive sense. The bland, central light of a globe imperceptibly gliding through lurid demi-tints into rich reflected shades, composes the style of Correggio, and affects us with the soft emotions of a dream†."

Such were the singular effects of genius, that in so short a period raised modern art to its highest pitch. So rapid was its progress, that one enjoying the

common term of life, might have witnessed its rise, progress, and decline.

After the works of those who have been mentioned, little was done by the artists who followed, except in refining and ornamenting that which had been struck out by their great predecessors. Whilst Raphael died too early to witness the decline of the art he had so materially assisted to perfect, the long life of Michael Angelo permitted him to see and to lament the perversion of those principles which he had developed.

Amongst the most distinguished disciples of the Roman schools may be mentioned Pelegrino Tebaldi of Bologna, Julio Pippi (Romano) and M.A. Amerigi (Il Caravaggio). The principle of Correggio found no worthy follower except in Parmegiano (Francesco Muzzioli), who may be said to have refined upon the grace of his master, to a degree of elegance, which, however, was too often allied to weakness and affectation.

Towards the end of the sixteenth century arose at Bologna the school of the three Carracci, known by the name of the Eclectic School, from its leading principle of endeavouring to select the beauties, correct the faults, supply the defects, and avoid the extremes of the different styles; a union which the slightest consideration shews to be entirely incompatible. These principles of the eclectic school speedily caused its decay, and the most eminent of the scholars, such as Domenichino, Schedoni, Guido Reni, and Guercino, soon found their peculiar bias, and followed their own course, unfettered by such inconsistent rules.

As even a short notice of the life of Michael Angelo would have been imperfect without a sketch of the rise and progress of art to excellence, so the singularity of its almost equally rapid decline was too curious to pass entirely without notice; and this must be the apology for the few meagre extracts which have been given from Mr. Fuseli's very spirited notice of the art of the moderns in his second lecture.

CHAPTER VIII.

Character of Michael Angelo as a Sculptor and Painter.

HAVING thus shortly traced the history of painting and sculpture, both ancient and modern, we shall, before we refer to the architectural productions of Michael Angelo, consider his character and rank as a painter and sculptor.

* Fuseli.

† Ibid.

An estimate of his powers in these two branches of art may be best formed by a reference to the opinions of some of the most eminent writers on art of our own country. Although we may not have produced any artists worthy to contend with the great Italian painters, yet it may be affirmed that no country has hitherto produced writers more fully capable of appreciating the merit and beauties of the Italian school, or of developing the principles of its great masters, than our English artists. Neither Italy nor France has produced works equal to the lectures of Sir Joshua Reynolds, Fuseli, and Flaxman. In general, the Italian and French have wasted their time in antiquarian discussions on minute points, or in subtle metaphysical theories on *beauty*, *ideality*, and *grace*. The paintings of Sir Joshua Reynolds have deservedly placed him at the head of our English school, and his Discourses, taken as a whole, perhaps, place him in the first rank of critics on subjects relating to art. The following extracts, from the lectures of Sir Joshua Reynolds, contain his opinions on the merits of Michael Angelo as a painter.

"When we consider that Michael Angelo was the great archetype to whom Parmegiano was indebted for that grandeur which we find in his works, and from whom all his contemporaries and successors have derived whatever they have possessed of the dignified and the majestic; that he was the bright luminary, from whom painting has borrowed a new lustre; that under his hands it assumed a new appearance, and is become another and superior art; I may be excused if I take this opportunity, as I have hitherto taken on every occasion, to turn your attention to this exalted founder and father of modern art, of which he was not only the inventor, but which, by the divine energy of his own mind, he carried at once to its highest point of possible perfection.

"The sudden maturity to which Michael Angelo brought our art, and the comparative feebleness of his followers and imitators, might perhaps be reasonably, at least plausibly, explained, if we had time for such an examination. At present I shall only observe, that the subordinate parts of our art, and perhaps of other arts, expand themselves by a slow and progressive growth; but those which depend on a native vigour of imagination

generally burst forth at once into fullness and beauty. Of this, Homer, probably, and Shakspeare more assuredly, are signal examples. Michael Angelo possessed the poetical part of our art in a most eminent degree; and the same daring spirit, which urged him first to explore the unknown regions of the imagination, delighted with the novelty and animated by the success of his discoveries, could not have failed to stimulate and impel him forward in his career beyond those limits, which his followers, destitute of the same incentives, had not strength to pass.

"To distinguish between correctness of drawing, and that part which respects the imagination, we may say the one approaches to the mechanical (which, in its way too, may make just pretensions to genius) and the other to the poetical. To encourage a solid and vigorous course of study, it may not be amiss to suggest that, perhaps, a confidence in the mechanical produces a boldness in the poetic. He that is sure of his ship and tackle, puts out fearlessly from the shore; and he who knows that his hand can execute whatever his fancy can suggest, sports with more freedom in embodying the visionary forms of his own creation. I will not say Michael Angelo was eminently poetical, only because he was greatly mechanical; but I am sure that mechanical excellence invigorated and emboldened his mind to carry painting into the regions of poetry, and to stimulate that art in its most adventurous flights. Michael Angelo equally possessed both qualifications. Yet, of mechanical excellence, there were certainly great examples to be found in ancient sculpture, and particularly in the fragment known by the name of the Torso of Michael Angelo; but of that grandeur of character, air, and attitude which he threw into all his figures, and which so well corresponds with the grandeur of his outline, there was no example; it could, therefore, proceed only from the most poetical and sublime imagination.

"It is impossible not to express some surprise, that the race of painters who preceded Michael Angelo, men of acknowledged great abilities, should never have thought of transferring a little of that grandeur of outline which they could not but see and admire in ancient sculpture, into their own works; but they appear to have considered sculpture as the later schools of artists look at the inventions of Michael Angelo —

as something to be admired, but with which they have nothing to do: *quod super nos, nihil ad nos*. The artists of that age, even Raffaele himself, seemed to be going on very contentedly in the dry manner of Pietro Perugino; and if Michael Angelo had never appeared, the art might still have continued in the same style.

"Besides Rome and Florence, where the grandeur of this style was first displayed, it was on this foundation that the Carracci built the truly great academical Bolognian school.

"This grandeur of style has been, in different degrees, disseminated over all Europe. Some caught it by living at the time, and coming into contact with the original author, whilst others received it at second hand; and being everywhere adopted, it has totally changed the whole taste and style of design, if there could be said to be any style before his time. Our art, in consequence, now assumes a rank to which it could never have dared to aspire, if Michael Angelo had not discovered to the world the hidden powers which it possessed,—without his assistance we never could have been convinced that painting was capable of producing an adequate representation of the persons and actions of the heroes of the Iliad.

"I would ask any man qualified to judge of such works, whether he can look with indifference at the personification of the Supreme Being in the centre of the Capella Sestina, or the figures of the sybils which surround that chapel, to which we may add the statue of Moses; and whether the same sensations are not excited by those works, as what he may remember to have felt from the most sublime passages of Homer? I mention those figures more particularly, as they come nearer to a comparison with his Jupiter, his demigods, and heroes, those sybils and prophets being a kind of intermediate beings between men and angels. Though instances may be produced in the works of other painters which may justly stand in competition with those I have mentioned, such as the Isaiah and the Vision of Ezekiel, by Raffaele, the St. Mark of Frate Bartolommeo, and many others, yet these, it must be allowed, are inventions so much in Michael Angelo's manner of thinking, that they may be truly considered as so many rays, which discover manifestly the centre from whence they emanated.

"The sublime in painting, as in poetry, so overpowers and takes such a possession of the whole mind, that no room is left for attention to minute criticism. The little elegancies of art in the presence of these great ideas thus greatly expressed, lose all their value, and are, for the instant, at least, felt to be unworthy of our notice. The correct judgment, the purity of taste, which characterise Raffaele, the exquisite grace of Correggio and Parmegiano all disappear before them. * * * * *

"I feel a self-congratulation in knowing myself capable of such sensations as he intended to excite. I reflect, not without vanity, that these discourses bear testimony to my admiration of that truly divine man; and I should desire that the last words which I should pronounce in this academy, and from this place, might be the name of—Michael Angelo."—*Sir J. Reynolds's Discourses*.

With respect to the great praises bestowed on Michael Angelo by Sir Joshua, many have been induced to doubt the sincerity of his admiration, seeing that his own works bear so little traces of the style and manner of him whom he considered most excellent. Sir Joshua, however, has himself stated that he was rather to be considered an admirer than an imitator, having taken another course, one more suited, as he modestly observes, to his abilities, and the times in which he lived. That Sir Joshua Reynolds would have been eminent in whatever style he attempted, his great success, and the merit of the works he has left us, give ample evidence. It is in the latter part of his observation that the true reason of the course he pursued is to be discovered. There was no real taste in the country for the grand and severe style of the Roman school; there were no great buildings to be adorned, nothing to call into existence rivalry and emulation such as existed during the times of the revival of the art at Rome; and it was only in the exercise of that branch of art which the public taste made lucrative, that the artist could arrive at that independence which it must be the object of all to attain.

We cannot better illustrate our position, as to the little taste, or, at least, little patronage, those artists receive who exclusively confine themselves to the higher branches, than by mentioning that the late Mr. Flaxman (who, after raising the character of this country by his outlines from Homer and Dante,

which the united testimony and applause of all Europe pronounced to approach nearer, in grandeur and simplicity of composition, to the works of the ancients than any other,) never, through a long life, was commissioned to execute one single subject from these designs!

The recently published life of Sir Thomas Lawrence proves to us that he also concurred in giving the palm to Michael Angelo. He observes, in a letter from Rome,—"It often happens that first impressions are the truest,—we change, and change, and then return to them again. I try to bring my mind in all the humility of truth, when estimating to myself the powers of Michael Angelo and Raphael, and again and again, the former 'bears down upon it with the compacted force of lightning.' The diffusion of truth and elegance, and often grandeur, cannot support itself against the compression of the sublime. There is something in that lofty abstraction, in those deities of intellect, that people the Sistine Chapel, that converts the noblest personages of Raphael's drama into the audience of Michael Angelo, before whom you know that, equally with yourself, they would stand silent and awe-struck. Raphael never produced figures equal to the Adam and Eve of Michael Angelo. * * * *

"I passed my morning, for some hours, in the Sistine Chapel and the Vatican; and procured an order to admit me to go round the top of the chapel in the narrow gallery; I thus saw the noble work with closer inspection, and therefore more advantage. With all your love of Raphael, you must and shall believe in the superiority of that greater being, of whom, in grateful, virtuous sincerity, your painter himself said, 'I bless God I live in the times of Michael Angelo.' Admired and popular as he was, it was fine, yet only just in him to say so; and, from frequent comparison of their noble works, I am the more convinced of the entire veracity of Sir Joshua Reynolds's decision in favour of Michael Angelo. I am not used, I hope, to be presumptuous in my opinions about art, but in my own mind, I think I know that Sir Joshua Reynolds could not have had another opinion on the subject."

Fuseli, whose works we have already often referred to, says, "Michael Angelo did for painting what Homer had planned for poetry, the epic part of which, with the utmost simplicity of a whole, should

unite magnificence of plan and endless variety of subordinate parts. He in time became *generic*, perhaps too uniformly grand: character and beauty were admitted only as far as they could be made subservient to grandeur. The child, the female, meanness, deformity, were by him indiscriminately stamped with grandeur. A beggar rose from his hand a patriarch of poverty; the hump of his dwarf is expressed with dignity; his women are moulds of generation; his infants teem with the man; his men are giants." Mr. Flaxman, speaking of Michael Angelo, says, "his name was great and venerable, without an equal in the three sister arts; one which became the wonder and example of his own and succeeding ages;" and in his tenth lecture, speaking of his sculpture, he observes:—"The character of Michael Angelo's sculpture is too lofty and original to be dismissed without further notice; although we must acknowledge it has been criticised with severity, because it rarely possesses the chaste simplicity of Grecian art. True, but although Michael Angelo lived long, he did not live long enough to give absolute perfection to all his works; yet the pensive sitting figure of M. de' Medici, in the Medici chapel, is not without this charm; and the Madonna and Child, on the north side of the same chapel, is simple, and has a sentiment of maternal affection never found in Greek sculpture, but frequently in the works of this artist, particularly in his paintings, and that of the most tender kind. The recumbent statues in the monument of Julian de' Medici, in the same chapel, of Day-break, or Dawn, and Night, are grand and mysterious: the characters and forms bespeak the same mighty mind and hand evident throughout the whole ceiling of the Sistine Chapel and the Last Judgment."

CHAPTER IX.

The critics and censurers of Michael Angelo, with remarks on the various estimates of his genius and character.

It is one of the evils attendant on genius to be obnoxious to the criticisms of the envious, the ignorant, and the malicious. M. Angelo had his share of detraction amongst those who were jealous of his greatness, in his own time; and there are others of the present time who profess to see no merit in the great works which are yet left to us,

and which have gained the applause of ages. It is, perhaps, of little importance to consider either the motives or the capacity of those who have taken on themselves the ungracious task of detraction; but as mere matter of curiosity it may be mentioned, that amongst the foremost of the moderns are Mengs and the Abbé Milizia*. The little work of the latter has become popular in the present day, as affording ready means to the hurried traveller of acquiring, in a given number of minutes, the whole art of criticism in the fine arts. The following may be taken at once as a specimen of the style of the writer, and of the soundness and fairness of his judgment:—

“THE CHRIST OF MICHAEL ANGELO. —Is this really a Christ, or is it a ruffian, who fiercely grasps the cross, for we know not what purpose? The anatomy is very hard; yet it is praised by numbers who think they know how to see, and who esteem Buonaroti as divine.

“In this Christ, in the Moses, and in all his works of sculpture and painting, Michael Angelo makes such a display of his anatomical knowledge, that he appears to have laboured only for anatomy; and unluckily he has neither well understood nor well applied it. The joints are wanting in lightness; the flesh is full, and round in its forms; the muscles are all equally prominent: from which it results that the beauty of motion is wholly lost sight of. No muscle is in repose; which is alone a vast defect. The tendons are of equal size, the outlines sweeping harshly, so that they start forth, and have no passage through which to retire again. What design then, and what elegance! much, indeed, like the labour of those learned persons who heap up all their erudition without discernment, and understand every thing but elegance and delicacy of perception.

“Michael Angelo mistook a means for the end. He studied anatomy deeply, and he did well; he considered anatomy as the ultimate object of the art, and he did ill; nay, he did worse than ill, from not knowing how to make use of it.

“He became (I humbly beg pardon of all his idolaters) sharp, hard, extravagant, overcharged, mean, vulgar, and, what is still more apparent, a mannerist, insomuch that his figures invariably display the same style and the same cha-

racter. In short, after having seen one, you may be said to have seen them all.”

Mr. Payne Knight, amongst our own countrymen, is also a severe critic on M. Angelo, finding in him little to admire. But it may be said of many of those who have underrated his genius, that perhaps they have had but few opportunities of studying those works which they so readily condemn, and that, if it had been otherwise, they would as readily have changed their opinion, as was the case with Falconet, a French sculptor, who was at one time foremost in his censures. When, however, he saw the two statues brought into France by Cardinal Richelieu, he said, with a candour which did him credit, “I have now seen M. Angelo; he is terrific.”

The monuments to Giuliano and Lorenzo de' Medici at Florence are perhaps the most remarkable of M. Angelo's works in marble. The statue of Lorenzo is the most remarkable. Lorenzo appears seated, wrapt in thought, leaning his face on one hand, while the rest of the figure is in perfect repose. Of this work, it has been observed, that it bears no resemblance to the antiques; but it rivals the highest excellence of the ancients in point of expression, with repose and dignity of its own. Such effects are produced only by the study of real life, contemplated by genius and imagination.

Mr. John Bell, whose work (*Travels in Italy*) has been already quoted, has some excellent remarks on the different statues of M. Angelo. Speaking of the tombs of the Medici, he observes:—

“Till I beheld them I had formed no conception of the splendour of genius and the taste possessed by Michael Angelo. They are works which evince a grandeur and an originality of thought, a boldness and freedom of design and execution, unparalleled.

“Two sarcophagi,—those of Lorenzo and Julian,—are each supported by two figures. The personifications of the Twilight and Aurora guard the remains of Lorenzo, and the Night and Day those of his brother. The crepuscule or twilight is represented by a superb manly figure, reclining and looking down; the wonderful breadth of chest and fine balance of the sunk shoulder are masterly, and the right limb, which is finished, is incomparable.

“The Aurora is a female form of the

* Dell' arte di vedere nelle belle arti del disegno secondo i principii di Sulzer e di Mengs.

most exquisite proportions; the head is of a grand and heroic cast, and the drapery, which falls in thin, transparent folds from the turban, is full of grace, while in her noble countenance a spring of thought, an awakening principle seems to breathe, as if the rising day awaited the opening of her eyes.

"Day is much unfinished—little more than blocked, yet most magnificent. To have done more would have diminished the noble effect of the whole, which is only heightened by what is left to the imagination. Perhaps none but a mind so gifted as that of this great master could have conceived this, or succeeded in so bold an attempt. Genius is creative; and this great artist did not imitate: he meditated, and in his moments of inspiration struck out the most superb inventions, often imperfect indeed, but always grandly conceived. Doubtless the unfinished state in which many of his splendid works were left must have been occasioned by that impatience so often the concomitant of genius, which, having attained its grand object in producing splendour of effect, becomes weary, and forsakes the details.

"The personification of Night*, in sleep and silence, is finely imagined. The attitude is beautiful, mournful, and full of the most touching expression; the drooping head, the supporting hand, and the rich head-dress, are unrivalled in the arts.

"There are in this chapel, forming a part of the group, or at least of the subject, two statues of the brothers Lorenzo and Julian, by the same master. They are both in armour. The figure of Lorenzo is simple and impressive. The whole character of this piece is marked by a cast of gloomy melancholy, which awakens the idea of his brooding over the fate of his murdered brother, their mutual affection being represented by the writers of the day as having been of almost a romantic character.

"The figure of Julian is a noble heroic statue. He is seated, the left hand gloved and raised. The bent forefinger touches the upper lip, which is admirably expressed, seeming literally to yield to the pressure. The helmet, fine in form and proportion, throws a deep shade over the countenance."

"The *Pietà* of M. Angelo at Florence

is a mere sketch: he cut his figures out of the block as others would sketch a design upon waste paper, which might prove too small for their intention. The subject is the taking down from the cross. The group is composed of four figures; those of our Saviour, the Virgin Mary, Joseph, and an angel. The whole expression is very touching and mournful: our Saviour forms the principal figure, and seems to hang suspended in the arms of Joseph, who supports the body from above; the figure of the Virgin is seen assisting under the shoulder, to uphold the weight, whilst her face is turned up towards the body. The melancholy of the whole scene is beautifully represented: the head of Christ rests upon her shoulder; the lengthened form of the body, supported in the arms of the assistants, seems extended by its own weight, whilst the suppleness and lankness of recent death is finely marked by the manner in which the limbs hang in gentle bendings, and seem falling towards the ground, with the most natural disposition of the arms, as if affected by every motion. The left arm hangs over the shoulder of the Virgin, whilst the right crosses her neck, and rests on a lesser angelic figure, which might have been omitted without injury to the subject. The interest of the piece lies in the melancholy but placid countenance of our Saviour, and the declination of the head, which is lacerated by the crown of thorns, and seems thus to have drooped in the awful moment when the 'vail of the Temple was rent and the sun was darkened.'"

Mr. Flaxman observes of the Last Judgment, "All is original, and unlike any production of antiquity, and forms a labour that seems scarcely the work of man, and stands without a rival in ancient and modern art."

Again—"In this there are multitudes and legions in comparison with the separate figures and single groups in the most considerable of the ancient works. In this stupendous work, in addition to the genius of the mighty master, the mechanical powers and movements of the figures, its anatomical energy and forms are shown by such perspective of the most difficult positions, as surpass any examples left by the ancients, on a flat surface, or low relief, and are only to be equalled in kind, but not in proportion of complication, in the front and diagonal views of the Laocoon, and all the views

* Vasari, the friend and panegyrist of M. Angelo, speaking of this statue, says, "Statua non rara ma unica!"

of the Boxers, which are both entire groups."

In estimating the character of Michael Angelo, we must judge of him, like Bacon, by his times, and must consider what progress had been made since the revival of the arts; how few ancient statues had been discovered, and how little of the principles of art had been then defined. It is not so much his works that remain; those of his pencil have long lost all their freshness, and most are fast fading to decay; but it is the great and universal change which his genius effected that will make him always illustrious, even when all traces of his own works may have been destroyed. The graceful, the elegant, and the refined style of the ancients could not perhaps be surpassed; but the grand and terrific seems to have been his peculiar province. In invention, vigour, energy of mind, and knowledge of form, he led the way.

It has been objected, and with some truth, that his statues are most of them rather pictures than statues, to be seen in one view only; and indeed most of them were executed for monuments, and not to be seen isolated.

It may fairly be inferred, from the excellence of his Moses and other figures, that, had he confined himself through life to sculpture alone, he would have attained the highest reach of the art. It should also be observed, that his impatience and eagerness did not allow either of his finishing with the necessary care, or of taking the means usually adopted to attain perfection of execution. In a work quoted by the writer, under the name of Baron Stendhal, written in the 16th century, the author observes:—"I myself saw Michael Angelo, when more than sixty years old. His body was thin, and did not give the idea of strength; he was hewing away large pieces of a block of hard marble with such power and dexterity, that in a quarter of an hour he had cut more than three of the strongest young sculptors could have cut away in a whole hour. He worked with such impetuosity and fury, that I expected every moment that the whole block would have been broken in pieces. Every blow brought away pieces of three or four inches in thickness; and his chisel went so near the termination of the outline of the subject, that, if the blow had driven it one line further, the whole would have been destroyed. His

impatience was so great, that he often executed his works in marble from small models in wax or clay, trusting to his own resources for the detail."

Many of Michael Angelo's designs were executed by others, particularly by Sebastiano del Piombo, and Daniel da Volterra. With respect to these, it has been observed, that he lowered his imagination to suit the capacity of the colourists, and without losing any of his grandeur or knowledge of design, appears to have avoided those extremes of energetic expression which have laid him open to so much rebuke. With the exception of these painters, who executed works under his immediate inspection, or from designs made by him, he may be said to have had no followers,—none who could be called imitators. His style was one which required his own peculiar genius to attain.

In this short account of the merits and defects of Michael Angelo, we have furnished the reader with the opinions and criticisms of distinguished artists and scholars, who have written on the principles of art and taste, and who, of necessity, have devoted peculiar attention to the works of one who, by almost universal consent, has produced the most wonderful, if not the most pleasing, works of modern art, and most of whom had opportunities of personally studying the original works of this great artist. On a subject depending so much on individual feeling; when, with one, some particular style of excellence is considered as pre-eminent; when, as with Mr. Payne Knight, nothing is excellent which does not convey a notion of ease, and of individual nature; and when with another, as Mr. Fuseli, "the grand" is considered as a compensation for every other defect; and when their very definitions of the terms "beauty, grace, grandeur, sublimity," have afforded discussion sufficient to fill entire volumes,—it would be hopeless to expect any great unity of opinion. None, however, except Mengs and Milizia, have gone so far as to deny great merit to the productions of Michael Angelo; whilst nearly the whole of those best qualified to judge have concurred in placing him at the head of the modern school of art.

If, in weighing the opinions of the admirers and the opponents of this extraordinary man, we have leaned towards those of the former, it is from a conviction that more pains have been

taken by them to ascertain the truth, and that their general knowledge and candour appear to have better qualified them to arrive at a just conclusion upon the subject.

CHAPTER X.

Michael Angelo assumes the Direction of St. Peter's.

No one could be more aware of his declining powers as a painter than the aged and noble artist himself, offering, in this respect, a striking contrast to the old age of Titian. In a conversation with his friend and biographer, as already observed, he said that his work in the Pauline Chapel had cost him great fatigue, and that painting, and especially fresco-painting, was not an employment adapted for old men. With the strong good sense which, as well as genius, he possessed, he made no attempt to combat with difficulties which he every day felt himself less able to overcome; and the paintings in the Pauline Chapel were the last he executed. The designs he had made for the remaining portion of the decorations, he entrusted to Perino del Vaga, in whose favour he petitioned the Pope, and obtained for him the honourable office of completing the task which his infirmities prevented him from pursuing.

But it is gratifying to find that this great man continued to feel the same delight in those occupations which had formed the glory of his youth, to the extreme verge of his existence. He had lived in honour and respect, and followed his profession with the ardour of an elevated mind, intent on the acquisition of excellence; and on the termination of his career he retained the inspiring glow of honest ambition, making none of those complaints by which old age sometimes disheartens the aspirations of youth;—increasing in dignity, but not bartering the cheerfulness and industry of former years for its enjoyment.

Circumstances, indeed, now occurred, which, instead of contributing towards his leisure, tended to introduce him into a sphere of wider exertion than he had hitherto occupied. If his taste as an architect had been amply proved by his works at Florence, it was now about to appear on that splendid scale in which his gigantic genius always shone unrivalled. The Pope had of late frequently called upon him to assist with his advice

and experience the pontifical architect San Gallo. The latter, however, seems to have felt a jealousy of what he looked on as interference; and at a consultation which the Pope held respecting the fortifications of the Borgo, in which Michael Angelo differed from him in opinion, San Gallo told him angrily that his arts were sculpture and painting—not fortification! To this the venerable artist replied, that he certainly knew somewhat of the arts he had mentioned; but that with respect to fortification, his study of that science and his long experience in its practice made him believe that he knew more of it than he or any of his class.

But the death of San Gallo, which occurred not long after, not only freed Michael Angelo from the effects of his envy, but induced the Pontiff to select him as the only person fitted to continue the building of Saint Peter's. The artist, who was contentedly employing himself in executing a work of sculpture,—a Christ taken from the cross, at first rejected the Pope's proposal, and for some time succeeded in avoiding the burden which it was intended to impose upon him. The Pope at length changed the expression of his wishes into a command, and Michael Angelo finding himself constrained to accept the appointment, soon entered on his duties with his accustomed energy and alacrity.

It is not the least remarkable circumstance in the history of this great man, as it is certainly one most highly honourable to his character, that the first stipulation he made in yielding to the commands of his patron was, that he should be allowed to accept the appointment without any salary, and that it should be stated in the brief that he undertook the work from a principle of religious devotion. The other conditions which he insisted upon were as strikingly illustrative of his firmness, and of the caution with which he set about so important an undertaking, as the one just mentioned was of his disinterestedness and piety. Among these were a permission to discharge all the officers or workmen employed about the building who were neglectful of their proper business; and, above all, that he should have authority to change as much as he chose, or even entirely put aside the plans of San Gallo.

When Michael Angelo entered upon his new and important office, the cathe-

dral of St. Peter's had been commenced more than forty years, and had already engaged the great talents of Bramante, and the subtle mind and exquisite genius of Raphael. The uncle also of San Gallo and Giocondo da Verona had both had a share in the direction of the work; but notwithstanding this union of men of extraordinary ability, the structure was still in a very indifferent state, and had the complicated model by which San Gallo intended to proceed been followed, it would have been one of the edifices least creditable to modern taste. The contrary was the case with the plan drawn out by Bramante; and Michael Angelo always expressed his high opinion of that architect's ability, and of the system which he had intended to follow in the erection of the cathedral.

But the structure which Bramante proposed to raise could only have been paid for out of funds to be obtained from the contributions of a world; and even Leo X. found himself compelled to submit to having the plans of Bramante somewhat abridged of their magnificence. The reasons which occasioned this necessity for economizing were still more numerous in the pontificate of Paul III., and he therefore prudently resolved upon having such a plan drawn out as might offer a chance of being speedily executed.

The good taste of Michael Angelo fortunately concurred with these ideas of economy. Putting wholly aside the model of San Gallo, which alone, it is said, cost a thousand pounds, he substituted his own design;—a simple Grecian cross, which, though occupying a much less space than San Gallo's, offered greater advantages in point of securing fine architectural results.

Under the constant superintendence of Michael Angelo the building proceeded with all the expedition possible, and the Pope was so well satisfied with the labours of his architect that he employed him in other quarters of the city, and particularly in completing the Farnese palace, and in erecting another on the Capitoline Hill, which he also allowed him to enrich with the numerous antiques which had been dug up in the city or the adjacent parts.

On the decease of Paul III., which took place before the end of the year 1549, Michael Angelo apprehended that his plans, in the execution of which he had begun to take the deepest interest, would be interrupted. If so, he was

agreeably undeceived by the courteous manner in which he was received by the new pontiff Julius III., who refused to listen to any of the insinuations made against him by his enemies, and fully established him in the privileges he had possessed under the late pope. Yet, notwithstanding the favourable disposition manifested by Julius, the detractors of Michael Angelo pursued their measures with the most determined hostility, and even contrived to obtain the pontiff's consent to a committee of architects being held respecting the progress of the cathedral. The principal persons engaged in this business were the Cardinals Salviati, nephew to Leo X., and Marcello Cervino, afterwards Pope Marcellus II.

At the conference, the chief objection which these dignitaries started was, that not sufficient light was admitted into the church, a defect principally caused by the improper erection of a wall in front of a recess intended for three chapels, and in which the architect had placed only three windows; and these, it was agreed, were quite insufficient, whether in size or number. The Pope having desired Michael Angelo to explain this apparently strong objection to his proceedings, he observed that he wished to hear the deputies before making any reply. To this remark the cardinals made answer, "That they were themselves the deputies!" "Then," said the architect, "in respect to the parts of the church to which your objection refers, over the three windows already there, are to be placed three others." "You never mentioned that before," was the answer. "No," said the architect, indignantly, "I neither am, nor will be obliged to tell your Eminence, nor any one else, either what I ought or what I intend to do. It is your part to see that money be provided, to guard against thieves, and to leave to me the building of St. Peter's." Then turning to the Pope—"Holy father," said he, "you see what I gain. If the machinations to which I am exposed be not for my spiritual welfare, I am losing both my time and my labour."

Julius, who had sufficient good sense to discern on which side the truth lay, put his hand on Michael Angelo's shoulder, and said, "Be in no fear; you will profit by it, both now and hereafter;" adding to these encouraging expressions fresh assurances of his friendship, and uniformly consulting him in all his future undertakings. One

of these was the erection of a bridge over that part of the Tiber which was formerly crossed by the Pons Palatinus. For this work he not only made the necessary designs, but had proceeded a considerable way with the structure, when his adversaries, pretending that such an occupation was too laborious for a person of his age, got his place supplied by Nanni di Baccio Bigio, a man ignorant of his profession, and whose only recommendation was that he could be made more obedient to the cardinals and their associates than his great contemporary. The latter, however, had little ambition to continue superintendent of this work, and willingly yielded to the suggestions of his pretended friends; though he prophesied, on seeing how Messer Nanni di Baccio Bigio was proceeding, that the bridge would tumble in before many years were over, and be washed away;—a prediction fulfilled about five years after it was uttered, and the Ponte Rotto, or broken bridge, as it has been ever since called, still remains as an evidence of Michael Angelo's knowledge, and the ignorance of his rival and of the men who supported him.

Among other designs to which his attention was next directed were monuments which Julius proposed to erect in honour of his uncle and grandfather; and a new chapel in S. Pietro Montorio for their reception. The execution of the designs was entrusted to Vasari, who thereby became a constant and intimate associate of the great artist. The very Boswell of painters, he lost no advantage which this circumstance afforded him to learn the habits, or listen to the remarks of his hero, and his narrative from this period assumes the tone of a man speaking in the company of one whose friendship he is sure of enjoying, but for which he can only be sufficiently grateful by constant and glowing praise. Evidence of this appears in the letters which passed between them, and the manner in which Michael Angelo appears to have received the compliments thus liberally bestowed upon him was marked with equal good sense and kind feeling.

In one of his replies, he says, "As to the three letters I have received from you, I have not a pen to reply to such lofty things; but if I had the good fortune to be in any way what you would make it out I am, I should chiefly rejoice at it, because you would then have a friend of some value to you. But I

am not surprised, as you are a resuscitator of dead men*, that you should lengthen out the life of living men, or deliver over the badly living to eternal death."

There was one circumstance in the situation of the celebrated painters and other artists of Rome which in a considerable degree counterbalanced the advantages they otherwise enjoyed. Those great patrons the popes were almost always men far advanced in life before they ascended the pontifical throne. The consequence was, that the painters were repeatedly exposed not merely to individual caprice, but to the caprice of several who appeared successively as the supreme arbiters of their fate. Michael Angelo himself had already lived through the reigns of six popes; and great as he was—possessing all the advantages of indisputable popularity, he had experienced not a few annoyances from the different dispositions and rival pretensions of his masters.

Neither the enlightened Leo X., nor any of his successors, as we have shown, would allow the artist quietly to fulfil the promise he had made to his deceased benefactor Julius II., but would all readily have granted him a dispensation for it. In the reign of Leo, moreover, it is seen how he was neglected and left almost unemployed, and in those of Paul and Julius III. he was several times on the point of being sacrificed to the ignorance and jealousy of vulgar pretenders to knowledge. He had hitherto triumphed over all the difficulties with which he had to contend, and it was reserved for his old age to bear the positive and openly expressed ill will of a Roman pontiff. Julius died in March, 1555, at which time Michael Angelo was in his eighty-first year. The new pope was the Cardinal Marcello, who had long been his declared opponent, and as the artist knew that his engagement with respect to the cathedral was now terminated, he formed the intention of leaving Rome, and once more taking up his abode at Florence. To this he was principally led by the numerous invitations he had received from the Grand Duke Cosmo I., and which, on the death of Julius, were repeated, with the strongest assurances of esteem and friendship.

While Michael Angelo was preparing for his departure, the new pontiff was

suddenly removed by death, and Paul IV., who was next elected to the vacant dignity, having manifested the most decided disposition in his favour, he saw sufficient reason to change his intention. The letter he wrote on the occasion to Vasari, who anxiously looked for his arrival in Florence, is strongly expressive of his feelings in respect to his present situation. He had some difficulty, at first, in reconciling the grand duke to the change in his intentions; but the plain statement of the circumstances in which he found himself convinced Cosmo that he could scarcely avoid acting as he had done, and he was accordingly allowed to proceed with the cathedral without any material interruption.

CHAPTER XI.

Difficulties Michael Angelo had to contend with.

AT this period the princes of the Church were exerting their utmost power to crush the spirit of reformation which was daily manifesting itself in the different states of Italy. The means which they employed for that purpose were as contrary to the laws of humanity, as the doctrines which they resisted were agreeable to those of truth. Every government was excited to direct its most severe punishments to the destruction of the unfortunate Lutherans, and scarcely a city was left free from the stain of innocent blood. Divided as the reformers were from each other by the political disunion of the country, they had not been able to make a single stand against their oppressors; and had the latter been disengaged from every other care except that of uprooting the scattered seeds of the reformation in Italy, a very short period would have re-established them in their former security. But all Europe had been thrown into agitation by the changes which had taken place in Germany; the minds of men were prepared for conflict; and when that time arrives with the multitude, it seldom happens that contests of another description do not speedily follow. So marked an influence, in this respect, had the unsettled state of the public mind on the operations of the European potentates, that more than one of them had contrived to lead hosts of men who believed in the infallibility of the pope to attack him in his own dominions, and even in his palace.

The effect of these events was still felt. The Inquisition was yet in full operation, while the authority of the Church itself was shaken to its foundations by the zeal and prosperous situation of the Protestant princes, and by the threatening aspect of Spain. To add to the confusion which prevailed from these circumstances, Paul IV. was bigoted, haughty, and revengeful, and his mind was wholly occupied by the desire of exterminating the party who had incurred his enmity.

It is easy to conceive that a man of this character could possess few feelings in common either with the cultivators or with the real patrons of the liberal arts. Michael Angelo had early proofs of this. Notwithstanding his being continued chief architect of St. Peter's, Paul deprived him, without giving a reason for so doing, of the chancellorship of Rimini, and seriously proposed to white-wash the walls of the Sistine Chapel. When Michael Angelo heard of the latter intention, he bade the persons who told him inform the pope that his wish to amend the picture of the Last Judgment might be easily accomplished, for if his holiness would only reform the opinions of mankind, the picture would be reformed of itself. Fortunately for the admirers of Michael Angelo's genius, the pope only persisted in his resolution to reform, not wholly to destroy, the picture, and a painter of the name of Daniello da Volterra* was accordingly employed to modify such parts of the picture as were deemed by the holy pontiff and his cardinals objectionable.

The warlike rumours which every day grew louder at Rome, and the unsettled state of the public mind, added to the above causes of complaint, rendered the situation of the artist, at this time, extremely disagreeable; and he resolved upon retiring to the monastery of Spoleto till affairs should have resumed a more tranquil aspect. His temporary residence in this secluded retreat afforded him leisure for study and contemplation; and one of the strongest arguments which can be advanced in justification of monastic establishments is, that they have been the frequent asylum of men of genius, when either their own troubles, the disturbed state of their country, or their over-excited feelings, rendered repose and soli-

* An artist who, from having been employed in this and other instances in clothing the figures of some of the great artists, was usually known by the name of Daniel the breeches-maker.

tude a sort of necessity to restore their exhausted spirits.

Among the mountains of Spoleto, Michael Angelo found the tranquillity he desired; he was constantly surrounded by objects which at once elevated and soothed his expansive and contemplative mind; his age also tended to make the uninterrupted enjoyment of devotional meditation doubly pleasing and valuable; and on his return to Rome, he told Vasari in a letter, that he had received great delight from his visit to the monks in the mountains of Spoleto, and that, though he was returned to the capital, he had left his better self behind him;—there being, he says, no happiness in times so unsettled, except what is to be found in such a retirement.

The influence which this seclusion had upon his thoughts appears to have been still more strongly felt after his return to Rome. The contemplation of death, to a man so naturally serious, must have been long habitual, but he now began to look for its rapid approach, and his chief employment on returning home was the execution of a monument for the chapel in which he was to be buried. The design consisted of a representation of Christ taken from the cross, and supported by the Virgin Mary, who is joined in her pious duties by Mary Magdalen and Nicodemus. This work, it is said, occupied his leisure hours for a considerable period; but unfortunately, after expending upon it great labour, he found that the marble was bad: and not willing that what would probably be his last production in his favourite art should appear imperfect, he ceased from prosecuting it in disgust.

Soon after his return also, a circumstance occurred which put his patience to a still further trial. The pope, influenced, it seems probable, by the party opposed to Michael Angelo, engaged an architect, Pietro Ligorio, to assist him in his labours at the cathedral. This person, however, was altogether a theorist, and the vast field opened to him in St. Peter's offered too great a temptation to a man of his character to be resisted. Scarcely had he entered upon his office when he began to conduct himself towards Michael Angelo with a degree of superciliousness which would have been wholly unwarranted had the venerable old man been indeed in his dotage, but which was the strongest proof Ligorio could have given of his own utter incapacity, when all who

were disinterested and free from envy were looking with equal wonder and delight at the gradual development of the noble plan on which the painter of the Last Judgment had founded the structure, and which he was now rapidly, and without any diminution of the sublimity of his conceptions, bringing to its completion.

To the last hour that the mind of a great man can take an interest in any thing earthly, such an object as that which Michael Angelo had now in view might surely engage his most anxious attention. But in the present case, the exercise of his genius, and the interest which it was natural and right that he should feel in seeing one of the grandest productions of his intellect perfected, had a degree of sanctity given to them by the principles with which he had commenced the undertaking. As if no earthly rewards could be sufficient to repay him at nearly eighty years of age, for the sacrifice of freedom and repose, he refused, as we have seen, to bear the burden, except as a matter of piety and devotion.

This feeling, combined with the desire of seeing his design secure from the contamination of inferior minds, now made the completion of St. Peter's the constant object of all his thoughts; and he was roused to indignation when he beheld the unwarrantable liberties which Ligorio was preparing to take with his plan. As he found that it would be in vain to employ the force of argument with such a man, he appealed directly to the Pope, and at once desired him to decide whether he or Ligorio should remain the architect of St. Peter's cathedral. Paul IV. had sufficient discrimination and justice to decide aright in this case; and the presumptuous Ligorio was dismissed.

Michael Angelo now resumed his occupations with the same steadiness as before; losing, it appears, none of the resolution with which he had begun the undertaking, supported as he was by his high principles of piety and professional enthusiasm. In another letter, written to Vasari about this time, he remarks, that to leave St. Peter's in the state in which it now was, would be to ruin the structure, and thereby be guilty of a great sin; that he hoped he should shortly see the execution of his plans brought to such a point that they could no longer be interfered with, and that this was the prime object of his wishes, "if he did not," he sarcastically observes,

"commit a great crime by disappointing the cormorants who were daily hoping to get rid of him." In the same letter he also remarks, "it is God's will that I should still drag through existence, and I know that you will call me an old and silly fellow to wish to make sonnets; but as many people say I am a child again, I like to do childish things. I am convinced by your letter of the love which you feel towards me, and I therefore beg you to know that I should esteem it a most kind office if you would lay these my feeble bones near those of my father."

The state of his mind may be clearly discerned in this short but expressive letter; and the view of such a mind, at all times worthy of the deepest attention, is doubly so when it begins to anticipate the transition to another state of existence, but retains its faculties in undiminished strength and vigour.

CHAPTER XII.

Progress of the Edifice of St. Peter.

THE cathedral was by this time so far advanced, that the thoughts of the architect were now engaged in forming plans for the dome; the splendid frieze and row of double columns from which it was to rise being already completed. His friends were not deficient in offering him their congratulations at the admirable manner in which he had succeeded in bringing his plans to so great a state of perfection; and many of them used their utmost influence to persuade him to proceed immediately with the cupola.

But aware of the importance of this part of the edifice to its general effect, and of the difficulties of executing the noble designs which had been floating in his mind, it was several months before he could determine upon commencing this portion of his labours. At length, however, he overcame his reluctance, and began to work a little earthen model of the dome*. By dint of thought

and perseverance, he gradually gave it the appearance which he wished to secure, and then employed an ingenious artist to construct from it another model in wood; all the parts of which were to be formed after the exact measurement he had laid down.

The greatest satisfaction was expressed at the beauty of this model, and Michael Angelo had thus effected another very important step towards the completion of his grand design. His daily declining strength, added to the tardy manner in which the sums necessary for the building were supplied, rendered it hardly probable that he would live to see the cathedral itself perfected. But he had at least the satisfaction to know that the noble idea which had occupied his mind was rightly appreciated by those whose approbation he thought worth his regard; that it had now a real and palpable existence; and that should his plans be put aside after his death, by the envy or bad taste of his enemies, posterity would have the means of doing justice to his conceptions.

Soon after the completion of the model, however, Paul IV. ceased to live, and public affairs underwent another change. The character of the late pontiff had exposed him to almost universal hatred; the zeal with which he had endeavoured to support the church assumed the most terrific forms of private revenge; and while those whom he esteemed his enemies bled under the instruments of torture, the people of his own states groaned under as heavy a yoke as the tyranny of any despot had ever imposed. His death was consequently the signal for the most tumultuous popular rejoicings. In the first excitement, the prisons of the Inquisition were broken open; the intended victims of the holy office set at liberty, and the building itself immediately after burnt to the ground. The people next proceeded to hurl down his statue, which, after rolling with every mark of ignominy through all the principal streets, they cast headlong into the Tiber.

Though he had witnessed many revolutions and strange events, and survived seven pontifical reigns, Michael Angelo had little expected to live to be an eyewitness of scenes like these; so derogatory then to the character of the Catholic church, and which gave to the giant-spirit of reformation an almost irresistible impulse. So great was the confusion

* It is stated that M. Angelo, when he set out from Florence to build the dome of St. Peter's, turned his horse round on the road to contemplate, once more, that of the cathedral, as it rose in the gray of the morning from among the pines and cypresses of the city, and that he said, after a pause, "Come te non voglio, meglio di te non posso." (Like thee I will not build one, better than thee I cannot.) He never spoke of it without admiration, and he desired that his tomb should be so placed in the Santa Croce, as that from it might be seen, when the doors of the church stood open, that noble work of Brunelleschi.

occasioned, and the uproar among the people, that four months elapsed before the college of cardinals were able to close their election of another pope. Their choice, however, at length fell on the Cardinal de' Medici, a native of Milan, and no relation of the illustrious family of Florence.

The new pontiff, on ascending the pontifical chair, took the title of Pius IV. and from the commencement of his reign manifested the most decided inclination to cultivate the arts. The ancient monuments of the city were estimated by him at their true value; the streets were repaired, the churches fitted up with extraordinary care, and the palace of the Vatican was embellished in a style of costly magnificence. Had this pontiff been more enlightened in his general views, and less inclined to amass wealth for the purpose of aggrandizing his family, he would have been a worthy successor of Leo X. Michael Angelo experienced his earliest attention, and was restored by him to the chancellorship of Rimini. Besides this mark of favour he received several others highly complimentary to his genius, and which proved how greatly his talents were still prized, notwithstanding his advanced age and the increasing machinations of his opponents.

Pius, having formed the idea of rebuilding the gates of the city, directed him to make designs for one which was to be erected without delay. When the drawings were given in, the pontiff fixed on the one which could be followed at least expense, and the celebrated Porta Pia was erected, to his great satisfaction and that of the Romans in general. It is uncertain whether the designs of Michael Angelo for any of the other gates were followed; the façade of the Porta del Popolo has been supposed to afford some traces of his hand; but the most careful antiquarians deny his having had any share in that structure.

Struck with admiration of the powers of the aged sculptor, and eager to gather with as much speed as possible more designs from the unexhausted wealth of his mind, the pontiff employed Michael Angelo in several other works of importance. Among these was a church formed out of the ruined baths of Dioclesian, in constructing which its great architect proved, in an extraordinary degree, the quickness with which his intellect was still capable of conceiving the noblest plans, and the force with

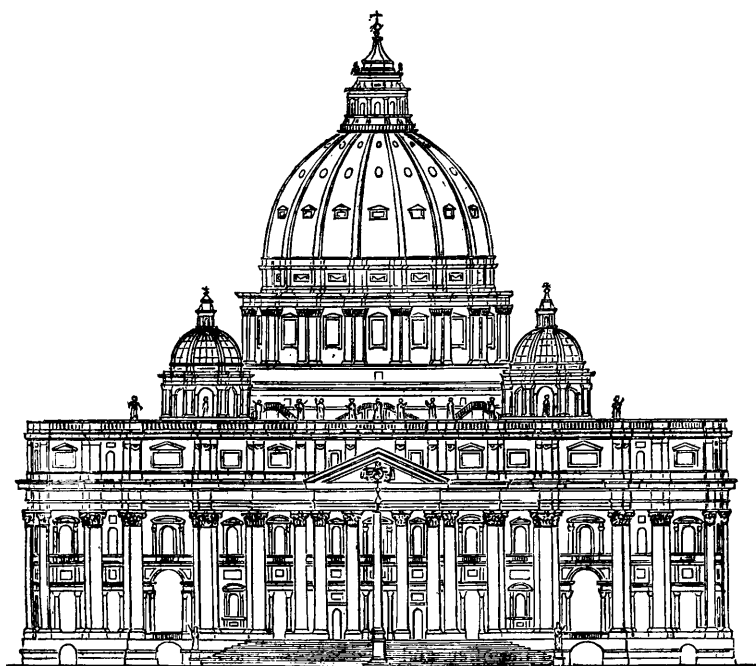
which it could overcome the difficulties opposed to their execution. This beautiful church, however, was suffered to fall into decay, and the designs of Michael Angelo were destroyed to make room for those of a more modern artist. About the same period, also, he was engaged by the cardinal, Santa Fina, to build a chapel in the church of Santa Maria Maggiore, but the cardinal dying it was left in an unfinished state. Nor were his labours confined even to Rome. The Florentines, being desirous of re-erecting the church of San Giovanni in the street of Giulia, the three architects employed on the occasion applied to Michael Angelo for a plan, assuring him that, if he refused to comply with their request, the undertaking must be abandoned.

In his reply Michael Angelo told them that he would do whatever lay in his power to further their wishes, both from the natural love which he bore his country, and from his desire now, in his old age, to employ his abilities to the honour of God. His bodily infirmities, however, obliged him to seek manual assistance, though he retained the same vigour in his mental exercises; and he was now in the habit of employing Tiberio Calcagni, a Florentine sculptor to whom he was attached, in drawing out or copying his plans. Having, by the aid of this artist, completed three designs, he sent them to Florence that the directors of the building might make their choice; but their surprise and admiration at the beauty of the plans are said to have been so great that they were unable to decide which it would be best to follow. They, therefore, returned them to Michael Angelo, with a request that he would himself determine the question, to which he immediately assented, observing, that if his design was completed, the structure would surpass anything that had been ever seen by Greeks or Romans, or by any other people.

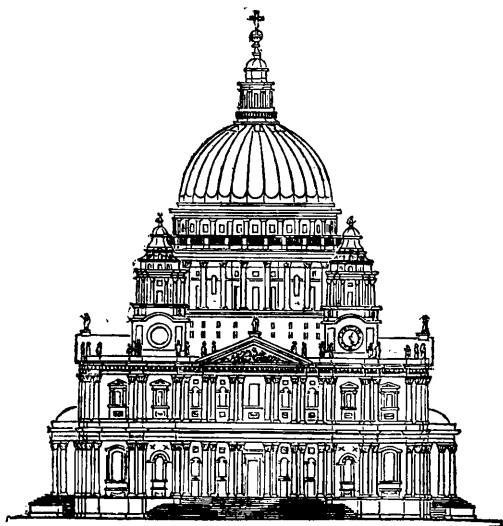
Unfortunately domestic troubles and difficulties prevented the prosecution of the work, and the model which had been made for the church of San Giovanni, after having been preserved some time, was destroyed.

The building of St. Peter's was in the meantime proceeding with as much speed and regularity as the nature of the edifice and the funds allowed for it would permit. But the opponents of the aged architect had lost none of their jealous ill-will towards a man who so

resolutely resisted all the suggestions which their united pride and ignorance prompted them to make. The only argument, however, on which they could safely depend was derived from his old age, and on this they insisted so pertina-



ST. PETER'S.



ST. PAUL'S.*

* It is proper to state here, that, although drawn nearly to the same scale, the dimensions given to St. Paul's are rather less than the true relative proportions of the two edifices would require.

ciously, that they hoped they were at length on the point of succeeding in their object.

The first step they now took was to send away Luigi Gaeta, one of his assistants, and this provoking Michael Angelo to express himself with considerable warmth, they interpreted his language into a declaration of his willingness to retire. As soon, however, as he became acquainted with the measures they were pursuing, he sent his friend Daniello Ricciarelli da Volterra to the bishop Ferratino, one of the committee of management, to contradict what was alleged respecting his wish to retire.

The bishop, on hearing this, expressed his regret, and observed that if Michael Angelo would resign his charge, certainly too heavy for a man of his age, the managers would willingly accept any one whom he should himself name as his substitute.

The proposition, thus made in apparent good faith, was such as Michael Angelo, or even the most jealous person, could scarcely fail to receive with good humour, as it secured to him that degree of influence which was almost everything desirable, situated and infirm as he then was. Without hesitation, therefore, he acceded to the offer, and naturally supposed that Daniello would be immediately appointed his substitute; but the bishop, instead of acting according to his promise, presented Nanni Bigio to the committee, simply mentioning that Michael Angelo had agreed to appoint a substitute.

The venerable architect heard of this transaction with mingled anger and disgust, and hastening to the pope, he expressed his determination to proceed instantly to Florence, and there end his days, if his holiness would grant him a licence to leave Rome. Pius, however, sought in the kindest manner to soothe his irritated feelings, and promised to inquire into the whole affair. Instead, therefore, of giving credence to the assertions of the architect's enemies that he was ruining the edifice, he sent a person in whom he could place confidence to examine the parts of the structure which were said to be defective. The investigation, it need scarcely be mentioned, ended to the complete satisfaction of both Michael Angelo and the Pope, and Messer Bigio was once more driven away in disgrace.

It is impossible to contemplate, with-

out indignation and regret, the persecutions to which Michael Angelo's inflexible integrity exposed him. The greatest genius of the age, advanced in years, bestowing gratuitously his talents in the erection of a fabric unrivalled in any age, was persecuted by every crafty speculator who found himself thwarted; and the directors of the works, wishing to have under their guidance some one whom they could more easily control, or make subservient to their own dishonest views, repeatedly annoyed him, and brought false charges against him.

CHAPTER XIII.

Death of Michael Angelo.

THE event above related was the last circumstance of any importance in Michael Angelo's life. Shortly after its occurrence, his health was observed rapidly to decline; and it was now thought requisite by the pontiff and others of his friends, that arrangements should be made to prevent the dispersion of his effects by improper means, in case of sudden dissolution. Examples are on record of the most barbarous spoliations having taken place on the death of eminent artists, among which what occurred on the decease of Titian is not the least memorable; and from the vast quantity of valuable designs, pieces of sculpture, and antiquities, which were accumulated in Michael Angelo's house, it was feared lest the rapacity of his attendants might deprive his rightful heirs of their expected inheritance, and the lovers of art of many valuable relics.

At the beginning of the year 1563, the apprehensions entertained from the impaired state of his health were considerably increased; a slow fever assailed him; and he became conscious himself that his mortal career was at an end. By his directions, Daniello da Volterra wrote off immediately to desire his nephew Leonardo to come with all haste to Rome; and the physician Federigo Donati being present, with several of his other friends, he made his will, which simply stated that he resigned his soul into the hands of God, his body to the earth, and his property to his nearest relations. He closed his brief testament with the exhortation, that in their journey through life they should remember

the passion of Jesus Christ. Shortly after thus disposing of his possessions, he expired, his death happening on the twenty-third of February, 1563, when he had completed within a few days the eighty-ninth year of his age.

The conspicuous station which M. Angelo had now for so long a space occupied, rendered his decease an event of considerable importance, and Florence disputed with Rome the honour of possessing his remains. They were, however, deposited, three days after his death, in the church of the Apostles at Rome, the Pope at the same time expressing his resolution to remove them at some future period to St. Peter's, and erect a monument over them worthy of the great artist's fame; "a circumstance," observes the editor of Vasari, "sufficient of itself to show the height of honour to which Michael Angelo had arrived, as it was the pontiffs alone who were usually interred in the cathedral."

The intelligence of his interment was no sooner received at Florence, than the academy of that city held a sitting to consider by what means it might prevent the remains of one who had so greatly increased the honour of the Florentine name from reposing in a distant province. A committee was accordingly chosen with a president of considerable reputation, Vincenzo Borghini, to arrange the preliminaries necessary to their design. The persons selected to represent the academy were Agnolo Bronzino, Giorgio Vasari, the biographer; the celebrated Benvenuto Cellini and Bartolommeo Ammanati. Having finished their consultations on the subject, they resolved upon petitioning the grand duke to obtain the pope's consent that the body of Michael Angelo might be transported to Florence, and deposited in the church of San Lorenzo, which contained the greater part of the noble works executed by the divine artist in his native country.

Their petition to the prince expresses in a striking manner the veneration with which the memory of Michael Angelo was regarded. "The academy and company of painters and sculptors," it says, "having consulted among themselves how, agreeably to the satisfaction of your excellencies, they may in some manner honour the memory of Michael Angelo Buonaroti, to whom it is due, both on account of his excellence in their profession, he having been the greatest artist the world ever saw, and

because of their common country, they are unanimous in desiring that this should be done in the noblest manner, and to the best of their power. They have therefore made known their sentiments to your excellencies as their most certain refuge and aid. To this address, the latter part of which abounds in compliment to the grand duke, the latter replied, that the readiness which the academy had shown to honour the memory of Michael Angelo gave him great happiness, and that he was not only willing to do that which had been requested in the memorial, but would endeavour to obtain the removal of his body to Florence.

This letter of the duke's produced another address from the academy, in which they thanked him for having employed his orator at Rome to secure the object of their wishes, and begged him to appoint Benedetto Varchi, a distinguished man of letters, to pronounce a funeral oration in honour of the deceased artist. These requests were also immediately granted, and the body, being privately conveyed to Florence, was placed at the foot of the great altar of San Pietro Maggiore. On the following day, all the sculptors and painters of the city were assembled in the church at an early hour; and about midnight the whole of the spectators having surrounded the coffin, the oldest and most celebrated of the artists present suddenly held up the numerous torches which had been prepared for them, and the young men raised the bier, all eagerly endeavouring to assist in the obsequies of so renowned a man.

The church of Santa Croce had been finally destined to receive his remains; and as they were conveyed thither, the streets were crowded by immense multitudes, all loud in their expressions of love and admiration for the sublime genius who had so greatly contributed to the glory of their city. When the procession arrived at the church, it was with the utmost difficulty the bearers could make their way through the concourse of spectators; but this being at last effected, and the funeral service having been performed by the friars of the establishment, the body was deposited in the sacristy, where the president of the academy, expressing his wish to see the deceased, whom he had not beheld for so many years, that he had forgotten his person, declared his intention to open the coffin,

All present coincided with him in the feeling which had prompted him, and the covering was removed from the remains of the immortal artist. It was feared that, as he had now been dead twenty-five days, considerable change might have taken place in his appearance, which would have prevented his followers from contemplating his inanimate form. But on the lid of the coffin being removed, he was seen lying as in a serene and quiet sleep, no other difference being visible in his countenance, but that it wore a paler aspect.

The ceremonies, however, necessary to complete the funeral honours of Michael Angelo were not yet ended; and some weeks after, his solemn obsequies were performed in the church of San Lorenzo, where a magnificent catafalque or monumental pile was raised in his honour by the united abilities of the Florentine sculptors and painters. Some idea may be formed of this structure, when it is mentioned that it was twenty feet by seventeen at its base, and more than fifty feet high; and that from its base to its top it was surrounded by paintings and statues representative or emblematical of the events in Michael Angelo's life, or of the triumphs he had effected in his favourite arts.

This remarkable catafalque occupied the middle of the great nave in the church, which, on the day the ceremonies took place, was hung with black, and illuminated in the most splendid manner, not merely the body of the building, but every chapel being decorated with paintings and other ornaments in honour of the deceased. The mass for the dead was performed, amid these manifestations of public respect, with all the pomp and solemnity of which that impressive though vain ceremony is capable; and at its conclusion Benedetto Varchi ascended a platform erected for the purpose, and pronounced the funeral oration, an honour so great, that, according to Vasari, Michael Angelo might consider himself fortunate to have died before Varchi, thus to enjoy the reward of his grand and eloquent discourse.

The splendour with which these rites were performed was an apt emblem of the reputation which Michael Angelo possessed during his life; and it would be difficult to name an artist, in any period of the world, or of any country, who more richly deserved, to the very utmost, that celebrity which he at-

tained. The peculiar style which his genius, and both his moral and intellectual character led him to adopt, was wholly removed from that which, by flattering popular tastes, may secure for its cultivators a rapid and easily earned reputation.

CHAPTER XIV.

Conclusion of the Character of Michael Angelo.

IN whatever this great man undertook, we may discern the aspirations of a powerful mind struggling with the difficulties which, by the nature of things and the circumstances of age and country, presented themselves in formidable array before his bold discursions and discoveries in the regions of human art. Nothing less than his mighty genius could so far have outstripped the times in which he lived, and by his grasp of intellect, have reached the consummate perfection which distanced all living competition, and rendered his predecessors and successors alike the satellites of one majestic luminary. Difficulties, long insurmountable to other minds, he confronted and triumphed over with the daring inspired by the conscious strength of gigantic intellect. The Homer of painting, he seemed to belong to some higher and grander world; and to draw from sources of joy and woe, far above the level of mere humanity as it is felt to exist.

It was thus the admiration he gained by his works became as universal as it has been lasting. If he ever incurred failure, it seems to have been in consequence of allowing his art to overstep the modesty of nature by the fire of his genius, and hence his mannerism whenever it obtrudes itself somewhat too glaringly on our notice; hence his studied display of anatomical science, and his fondness for sporting with difficulties which sometimes led him to the brink of absurdity itself. Whenever this was not the case—when he trusted to his own free conceptions, and was content to express them, as well as the instruments with which he had to work would allow, the productions of his pencil and of his chisel partook of an almost supernatural grandeur and sublimity; the forms under which he embodied his ideas were marked with fearful strength,

because the natural offspring of his mind could not be otherwise than characteristic of power; and the composition of his subjects was distinguished by a mingled severity of thought and boldness of invention, which, tempering each other, prompted him to depict the awful scene of the Last Judgment, but to reject in so doing any appeal to our more ordinary sympathies.

It was from a perfect consciousness of the advantage which his mind possessed when working with as much freedom as possible from whatever injures the simple expression of sublimity, that he felt so decided an aversion to painting in oil, which he denominated an employment only fit for women; and it was probably to the same cause that he owed his early predilection for sculpture, as better calculated than the sister art to express the feelings and ideas in which he delighted. Certain it is that in all his works we may discover a noble struggle to emancipate art from the accidents of fashion and human caprice; an endeavour solely to employ it as a medium of lofty and unchanging truth. No attempt was ever made by him to supply a want of essential beauty in natural forms by the skilful management of drapery, or any of the trickeries of art. He sought no aid from the gorgeous attractions of colour, or even from the austerer effect of light and shade. Whether the materials he employed were marble or colour, he never allowed them to appear but as the true materials of his art.

The only respect in which Michael Angelo put himself occasionally on a level with artists of inferior genius was by suffering the boldness of his manner to degenerate into what the French critics term "the fierceness of his line;" not always what Agostino Carracci means by—

"Di Michel Angiol la terribil via,"

but a degree of extravagance springing from the very exuberance of his powers. His most zealous supporters indeed cannot vindicate some of his productions from faults of this nature; and great exceptions have been very generally taken to the harsh and obtrusive figures he has not unfrequently introduced into his compositions, apparently from the desire, as was before said, of displaying his anatomical knowledge—a sort of ambition creditable to a young academician, but to which a man of such re-

splendent genius would soon, we should suppose, have risen superior.

It is not, however, only by reference to his particular productions that the greatness of Michael Angelo's genius is to be judged. The facility with which he passed from the exercise of one branch of art to that of another proves how unrestricted were its energies, how comprehensive an idea he had formed of nature, and how rapidly he could make himself acquainted with all the modes by which her external forms may be imitated, or her more mysterious operations typified. Sculpture, painting, architecture, and poetry, were all exercised by him with noble success, and were all made the medium of conveying to the world a great and elevating class of sentiments. In his moral and personal character he was equally noble and superior to the rest of mankind. His heart was strongly susceptible of affection, and he delighted in both writing and conversing on the subject of love. Yet Condivi observes, that, in his long intimacy with him, he never heard him speak in any way which did not tend to extinguish every lawless and vicious passion.

Independence,—so difficult for a man to preserve whose fame and fortune depend in a considerable degree on the favour of the great—distinguished both his conduct and sentiments to the latest period of his life; and it was in solitude, rather than amidst flattering assemblies, that he sought for the inspiration which raised him to eminence.

The other habits of Michael Angelo's mind correspond with these, and to his singular temperance, both in youth and manhood, he attributed his power of studying for a greater number of hours than most of his contemporaries. A little bread and wine was all he required for the chief part of the day when employed at his work. Very frequently he rose in the middle of the night and resumed the labours of the day. When he did this, it was his practice to fix the candle on the summit of a pasteboard cap which he wore, in order that he might not interrupt the light by his hands. He would often also sleep in his clothes, that he might be ready to proceed to work as soon as he rose, and sometimes would do so from having wearied himself too much to undress. Sir Joshua Reynolds, who, with as much admiration as Vasari himself for the object of our memoir, loved to expatiate

on the excellencies of his character, has not omitted to point out his industry as worthy of imitation by artists of all ages.

CHAPTER XV.

Character of Michael Angelo as an Architect.

IN his capacity as an architect, M. Angelo was extolled for his judicious selection of the sites of his buildings, and for bringing into compositions of harmonious strength and beauty, objects which lay beyond the immediate sphere of his operations. He completed all he began with the hand, not only of a master but of an artificer, embracing, with that commanding genius which belongs only to the giants of their race, the most extended bearings, and the minutest details of his subject, with the same tenacity of idea. By principle, however, Michael Angelo was both practically and theoretically devoted to the Greek architecture; and it was chiefly when called upon to alter and re-model the vast and rudely-designed works of the preceding periods, that he adopted the plan of mingling the Greek and the Tuscan styles. He was in so far a passionate admirer of the purest and most simple forms of the ancient orders, that he almost invariably placed flat pilasters on the fronts of his buildings, and these were principally Doric. He was most of all opposed to the more gorgeous and ornamental style, though unequalled in point of invention and sportiveness of genius. It was hence his architectural labours appeared to so much advantage—at once various and severe in their character; and in his palaces and private residences, he always succeeded in combining chasteness of manner with simplicity and ease. The knowledge he displayed was the more extraordinary, from the fact of his having directed the powers of his mind least of all to that branch of art; and entered upon it extremely late in life. He was, moreover, self-taught, having never received professional instructions from any master. On this ground, probably, when the Pontiff Paul III. invited him to take the direction of St. Peter's, he more than once begged to decline the undertaking. Architecture was not, he declared, his profession; and, on a former occasion, when he had repaired purposely to Florence, in order to construct the façade of the grand church of

S. Lorenzo, he only yielded to the express injunctions of Pope Leo the Tenth. Next to the Laurentian Library, perhaps the most beautiful and admired of his productions, although one of the earliest specimens of his skill, was the Chapel of the Medici, intended as a mausoleum for the family. In the new Sacristy were placed the monuments of Giuliano and Lorenzo de' Medici.

But the master-piece of his labours in this art, was the cortile of the Farnese palace, before alluded to, with the projecting cornice surrounding the exterior. The galleries on the Capitoline Hill are thought to be too complex, and the least correct specimens of a good style. It is asserted, indeed, that, even in the times of Michael Angelo, the remains of ancient architecture were not thoroughly understood,—an assertion which is not, however, supported by any sufficient show of reasoning—and much less by anything amounting to proof. On this ground, Mr. Duppa, rather too hastily we think, censures Michael Angelo, detracting from the character and importance of his labours on account of his not having sufficiently freed himself from the prejudices and trammels of his predecessors. "The chequered black and white marble of Brunelleschi," he observes, "in the exterior of public buildings, was the fashion of his day, and whatever partook of novelty in its appearance had sufficient claims to public approbation. Notwithstanding his taste and style of design were very little conformable to ancient simplicity, it was the misfortune of Michael Angelo to consider him as worthy of imitation." . . . "The taste of Michael Angelo appears to have been misled," he continues, "by some previous associations, which it would now be in vain to seek. In a letter addressed to a gentleman who had probably made some inquiries on the subject of architecture, he has expressed this singular opinion: 'that ability in that art depends upon a knowledge of the human figure, and more especially upon anatomy.'"

Had the writer of the above inquired a little more deeply into the nature of the subject on which he hazards so decided an opinion; had he consulted the best authorities, and read the best books upon the art, he would not have considered it so very singular an opinion of Michael Angelo's, and one derived from mere prejudice and error. That such an analogy does exist—that a knowledge

of the human figure—its mutual supports—its connexion—and gradations, is no unnecessary study to the architect, may be shown on the simple principles of analogy. Neither the older critics and commentators on his works, nor the modern Reynolds, Opie, Fuseli, and Flaxman, have ventured to criticise the great artist for too close an attention to the anatomy of the human figure. The reader, however, will form his own judgment with less difficulty on this head, when he has perused the letter in question, from which Mr. Duppa would seem to infer that the artist showed a want of discernment in not perceiving what he considers the utter inapplicability of the principles of the one study to the practical employment of the other. Michael Angelo's observations on the subject are as follow:—

“ MOST REVEREND SIR,

“ When a design in architecture has different parts, all equal, and of the same character, the decorations ought to be of one character also, and executed in the same style; and the same rule is to be observed in corresponding parts. But when the design is entirely changed, it is not only allowable, but necessary, to change its decoration; and the same principle is to be observed in the parts which are meant to correspond: the architect, however, always having full liberty to choose for himself, in the first instance, the style of ornament best adapted to his purpose. The nose, for example, in the middle of the face, does not depend upon the one eye or upon the other; but it is necessary that the one hand should be like the other, and that both the eyes should correspond, as well with respect to each other, as to the parts of the face in which they are situated. It is also certain, that the members of architecture have a reference to those of the human body; and he who does not understand the human figure, and particularly anatomy, can know nothing of the subject.

“ MICHAEL ANGELO BUONAROTI.”

The talents of Michael Angelo as a military architect were made known by his admirable defence of Florence against the imperial troops commanded by Philibert prince of Orange; a subject alluded to in the narrative of his life. Of his general excellence in the art we cannot finally convey a more correct idea, than is given in the few brief words of Fuseli: “The fabric of St. Peter,

scattered into an infinity of jarring parts, he concentrated, suspended the cupola, and to the most complex, gave the air of the most simple of edifices. Such, take him all in all, was Michael Angelo,—the salt of art.”

CHAPTER XVI.

Of the Poetry of Michael Angelo.

MICHAEL ANGELO observed that painting has the greatest resemblance to poetry: whence by many oftentimes the one has been called *mute poetry*, and the other *speaking painting*; and the close friendship in which we continually see painters and poets united, (like that between Giotto and Dante, or that between Petrarch and Simon of Siena,) is not a slight proof of this alliance or sisterhood of the arts. In the same manner, many poets have been endowed with the art of painting, as, for example, Cratinus, a comic poet, Dante, and some of our own times; amongst whom may be mentioned Pope, who had the finest feeling for art, which is traced throughout his works, particularly in his beautiful epistle to Jervas, in which he has so well described the characters of the different great painters. To the name of Pope might be added that of others of less distinction. This companionship of the arts of poetry and painting arises not only from the advantages which the one often derives from the other, but from the union which naturally subsists between them,—that is, that each is an imitation of nature. M. Angelo himself was an example of his own position respecting the close alliance between the arts of poetry and painting; and he who had surpassed all of his time in that mute poetry, also produced many beautiful verses, some of which have come down to us, while others have been lost. Like Petrarch, of whose poetry he was an imitator, his muse was inspired by a mistress; and, like Parrhasius of old, he charmed the hours of labour by singing to the pure celestial *Venus*. The object of his muse was one entirely worthy of the worship of so great a man: Vittoria Colonna was the wife of the illustrious Marquis of Pescara, who died of the wounds he received at the battle of Pavia. At the time when the princes of Italy, in great alarm, sought to lead Pescara from his fidelity to the Spanish cause, she wrote to her husband, “Remember your honour, which raises you

above fortune and above kings; by that alone, and not by the splendour of titles, is glory acquired; that glory which it will be your happiness and pride to transmit unspotted to your posterity." After the death of her husband, she betook herself to solitude, that she might lament his loss and celebrate his exploits. Young, and of consummate beauty both of mind and person, she uniformly refused to accept a second husband, though sought in marriage by persons of high distinction. She devoted herself to poetry, and so general was her fame throughout Italy, that ARIOSTO inscribed several of his verses to her. But her peculiar merit as a poet was, that in an age of immorality and grossness, she was the first who consecrated her lyre to subjects of piety unmixed with other matters. To such a person it was that Michael Angelo devoted his soul and his muse. It does not, however, appear whether or not she felt any answering affection, though it is observed by an elegant artist, that he thinks some traces of such a correspondence appear in his poems*. It is however certain that she wrote to him frequently letters of warm regard, and that she many times went to Rome expressly to see and converse with him, openly avowing the pleasure she received from his society; but in the poems of Vittoria Colonna, not a tinge of passion is discernible, though it glows with infinite ardour and tenderness in those of Buonaroti.

The Italian poets of the time amused the multitude, and were admired by them because they made their poetry subservient to levity and gross representations. Michael Angelo, however, did not follow their example, but trod in the path of Dante and Petrarch, his great masters. The platonic notions relating to the doctrine of the immortality of the soul, entirely imbued the minds of the masters of this school, at the time when the fine arts and poetry came forth out of the deep darkness which had shrouded them. It was the object of these men to draw love from the slavery of the senses, and to place it under the guidance of reason; not representing its exterior acts and sensible enjoyments, but delineating that which

arises in the minds of the good alone, when this, like other affections and passions, is purified and made conformable with virtue. From this cause, neither the works of Dante, Petrarch, nor Michael Angelo received applause except from the learned and good, and more particularly those whose minds were filled with the platonic conceptions of love. It should be observed that Lorenzo de' Medici, Michael Angelo's great and early patron, had drawn around him a society of platonic philosophers consisting of the most celebrated men of his time, and had caused Plato's dialogues to be translated; and it is probable that their doctrines concerning the power of the soul's energies in the configuration of the countenance and person, according to the established habits of virtue and vice, tended at once to awaken the attention of Michael Angelo in his choice of subjects and expression of qualities for the perfection of beauty, and also to imbue him with that peculiar spirit which is apparent in his writings. The following sonnets by Michael Angelo, which have been translated by Mr. Wordsworth, will illustrate the doctrine of this school.

No mortal object did these eyes behold
When first they met the placid light of thine,
And my soul felt her destiny divine;
And hope of endless peace in me grew bold;
Heaven-born the soul a heaven-ward course must hold;

Beyond the visible world she soars, to seek
(For what delights the sense is false and weak)
Ideal form, the universal mould.
The wise man, I affirm, can find no rest
In that which perishes; nor will he lend
His heart to aught which doth on time depend,
'Tis sense, unbridled will, and not true love,
Which kills the soul: love betters what is best
Even here below, but more in heaven above.—

Yes hope may with my strong desire keep pace,
And I be undeluded, unbetray'd;
For if of our affections none find grace
In sight of heaven, then wherefore hath God made
The world which we inhabit? Better plea
Love cannot have, than that in loving thee
Glory to that eternal peace is paid,
Who such divinity to thee imparts
As hallows and makes pure all gentle hearts.
His love is treacherous only whose love dies
With beauty, which is varying every hour,
But in chaste hearts, uninfluenced by the power
Of outward change, there blooms a deathless flower
That breathes on earth the air of Paradise.

WORDSWORTH.

In all Michael Angelo's compositions traces of his admiration of Dante are to be found; it is stated that he knew the *Divina Commedia* by heart;† "and who-

* See a very eloquent article by Sig. Radici on the poems of Michael Angelo, vol. xiii. p. 248. of the *Retrospective Review*. It is to this article, and to Mr. Duppa's life, that we are indebted for what is stated of the poetry of Michael Angelo.

† Monsignor Bottari, in his life of Michael Angelo, mentions that he had a copy of Dante in his possession, (the large folio edition with Landino's commentary,) on the margins of which he had drawn with a pen every thing which was contained in the poems

ever" (observes Sig. Radici) "has meditated on the productions of these two extraordinary minds, will be constrained to confess that never did two souls agree with so perfect a harmony—whether we look at the awful and terrible nature of their imagings, or at the loftiness of their sentiments, or at the perfectness of their representations, the thirst for renown, the consciousness of their own worth, the scorn of the blind vulgar, a constant dissatisfaction of things appertaining to this world, and an incessant panting, and, as it were, striving after the mysterious beatitudes of heaven, which may be seen a thousand times in the writings and in the lives of both these illustrious Italians. The deep contempt in which the lofty mind of Dante held the vulgar is apparent in every part of his writings. By the vulgar, however, he did not mean the simple inhabitants of lonely streets or humble cottages, but that abject and sordid crowd of all classes and all places,—the vulgar of kings, of popes—to whom he allotted punishment, not so much for their crimes, as for the baseness of their minds and the meanness of their desires—of priests, of nobles, of plebeians, of learned men, of knaves—the vulgar of every degree.

"It is the fate of lofty genius, like that of Dante and Michael Angelo, to be unable to support the scoffs and restraints imposed by the multitude; who, often malignant, and offended by greatness, try to fetter and deride it, calling those

actions which their grovelling minds cannot understand, madness.

"Indeed it seems to have been the peculiar hard fate of him and his contemporaries, who were to become in after times the great ornaments of their age, and the glory and pride of their country, to have experienced little else than continual opposition and oppression. Tasso, after living forty-seven years in the midst of the raileries of courtiers, the dullness of pedants, and the haughtiness of princes, at one time imprisoned—a wanderer—always indigent—lying on his death bed, wrote, 'I will not complain of the malignity of fortune, because I do not choose to speak of the ingratitude of men who have succeeded in dragging me to the tomb of a mendicant.' Dante for many years went begging from door to door; he whose noble verse had aroused Italy from her slumbers, and breathed into her a new and nobler soul; he who in his youth had drawn his sword in the sacred cause of his country's liberty; he who was overcome with longing after the paternal roof—an exile—was not permitted to behold again the towers of his native city, nor to embrace the tomb of his ancestors even in death:" and Michael Angelo, in one of two fine sonnets to the memory of Dante, has indignantly noticed his country's cruel injustice.

SONNET.

How shall we speak of him, for our blind eyes
Are all unequal to his dazzling rays?
Easier it is to blame his enemies
Than for the tongue to tell his lightest praise.
For us did he explore the realms of woe;
And at his coming did high heaven expand
Her lofty gates, to whom his native land
Refused to open hers. Yet shalt thou know,
Ungrateful city, in thine own despite,
That thou hast fostered best thy Dante's fame;
For virtue when oppressed appears more bright,
And brighter therefore shall his glory be,
Suffering of all mankind most wrongfully,
Since in the world there lives no greater name!

With regard to Michael Angelo, no one can have read the preceding short and imperfect narrative of his life, without seeing the cruel and unmerited treatment he experienced from the great; the perpetual and the harassing opposition he met from those who, willing to avail themselves of his genius, and to unite their names and fame with his in the hopes of reaching posterity by this means, were yet unwilling to allow him the free use of his powers, or to brook that independence and freedom that would not allow him to humble himself before their baseness. His feelings may be completely collected both

of Dante, and amongst the rest an infinite number of the most excellent naked figures in the most striking attitudes. The book got into the hands of Antonio Montanti, an intimate friend of Antonio Maria Silvia, as appears from Silvia's published letters. Montanti was an able statuary, and set a very high value on this book, and on going to Rome from Florence, he sent all his effects by sea, when the vessel and its freight perished—and thus was lost to the world this inestimable volume, which alone would have done honour to the library of the greatest monarch.—The demons in the last judgment, the figures rising from the grave, and the subject of the brazen serpent and the execution of Haman, in the Sistine chapel, all will convince the reader of Dante how kindred his genius was to that of Buonarroti's, and how worthy the painter was to embody the ideas of the poet; but the work, observes Sig. Radici, in which Michael Angelo truly showed that his mind was, so to speak, an emanation of that of Dante, is the one which is so unlike the production of all other painters, that we may truly say, he was inspired to execute it, viz. of the Virgin looking at her son with dry eyes, the expression of which is far removed from all mourning or sorrow, thus imaging the true and philosophical meaning of that sublime prayer in the last canto of the *Paradiso*.

O virgin mother, daughter of thy son!
Created beings all in lowliness
Surpassing, as in height above them all.

from his letters and his poetry ; and in his madrigal to Riccio, he again expresses his opinion of those by whom it was his lot to be surrounded.

Ill hath he chosen his part who seeks to please
The worthless world,—ill hath he chosen his part,
For often must he wear the look of ease

When grief is at his heart;
And often in his hours of happier feeling
With sorrow must his countenance be hung,
And ever his own better thoughts concealing
Must he in stupid grandeur's praise be loud,
And to the errors of the ignorant crowd

Assent with lying tongue.
Thus much would I conceal that none should know
What secret cause I have for silent woe;
And taught by many a melancholy proof

That those whom Fortune favours it pollutes,
I from the blind and faithless world aloof,
Nor fear its envy nor desire its praise,
But choose my path through solitary ways.
SOUTHEY.

We have been induced, notwithstanding the narrowness of our limits, to give these extracts of the poetry of Michael Angelo, not only for their intrinsic beauty, but because we have no better means of showing the constitution of his mind, and making him, in fact, in the most important part of his history, that of his feelings and opinions, become his own biographer.

LETTERS OF MICHAEL ANGELO.

To M. Luca Martini.

Most noble Messer Luca, (1)—I have received from M. Bartolommeo Bettini (2) your letter, enclosing me a commentary (3) upon a sonnet which was the offspring of my pen. The sonnet is verily mine, but the commentary on it is the gift of Heaven; for of a truth it is an admirable production—not by the award of my judgment, but by that of the most able men, and more especially of M. Donato Giannotti (4), who seems as if he could never read it enough, and begs to be specially commended to you. As regards the sonnet, I know what it is: but be that as it may, it is impossible but that I must feel a little vain glory from the circumstance of its having given rise to so beautiful and erudite a comment; and inasmuch as the author of the same pronounces me, by his fine words and praises, to be what I know I am not. Let me beg of you that you will speak for me in return, and in language such as is due to so much affection, courtesy, and love. I do entreat you to this the more from a sense of my own inferiority, and because he who enjoys the good opinion of the world ought not to tempt fortune, it being more wise in him to hold his peace than to get a fall from on high. I am old; and death hath already deprived me of the thoughts of my youth: and let him who knows nothing of old age from experience wait patiently till it arrive, for he can form no opinion of it sooner. Recommend me, as I have said, to Varchi, as one who is most attached to him, and to his virtues, and no less devoted to his service where-soever I am.

At Rome.

M. A. BUONAROTI.

To Giorgio Vasari.

My dear Mr. George,—I wrote you

nothing about laying the foundations in St. Peter at Montorio, both because the Pope would not give his assent, and because I was aware that you had been informed of it by your man. I will now tell you what followed; which is, that the Pope went yesterday morning to Montorio, and sent for me there (5). I met him on the bridge as he was returning; and at the conclusion of a long conversation I had with him respecting the sepulchres, he told me he had resolved not to have them erected over that hill, but in the church of the Florentines. He asked me my opinion, and also with regard to some plans, and I encouraged him much to continue in that intention; thinking that by this means the church will be brought to perfection. As for the three letters which I received from you, my pen is incapable of making due answer to the fine things you say of me; but if it would delight me to be in some part such as you describe me, it would only be because you might thus have a servant worth something. But I do not wonder that you, who resuscitate the dead (6), may also lengthen the life of the living, or for an infinite number of years rescue from death persons who are hardly alive. To conclude; such as I am, I remain all yours.

Rome, Aug. 1, 1550.

To the same.

My dear friend George,—I assure you that, if I could remember how I had arranged the staircase for the library, I should not require so many entreaties. It is true that a staircase comes across my mind as it were in a dream; but I do not think it is exactly that which I originally conceived, because it seems very clumsy. However, here it is. Take a quantity of oval

boxes, one span thick, but of different lengths and widths, and put the largest on the pavement, at such a distance from the wall of the door as you wish the staircase to be steep or inclined; then place another box upon that, so much smaller on every side that it may leave sufficient space for the foot to mount, and let the steps go up decreasing in the same proportion until the last perfectly fits the door. Let this oval part of the staircase have two wings, one on each side, continuing the same steps, but not oval. Of this, let the middle serve for the lord from the middle of the staircase upwards, and let the turnings of the wings return to the wall. From the middle down to the pavement they should go, together with all the staircase, about three spans from the wall; so that the basement of the circumference should be nowhere occupied, and every face remain free. I fear you will laugh at what I am writing, but I know you will find something that will do.

Rome, Sept. 15, 1550.

To the same.

My dear Mr. George,—As soon as Bartolommeo (7) arrived here, I went to speak to the Pope; and having seen that he wished to have the foundations of the sepulchres laid at Montorio, I provided a mason from St. Peter's. But the busy-bodies (8) having heard of it, would send another instead; and I withdrew immediately, not to contend with him who gives motion to the winds; because, being a man of small weight, I should not like to be blown away into the middle of some bush. I shall only say that, in my opinion, we should no longer think of the church of the Florentines (9). Return soon; and farewell. Nothing else occurs to me for the present.

Rome, Oct. 13, 1550.

To the same.

My dear friend George,—I have derived the greatest pleasure from your letter, seeing that you still remember the poor old man; and moreover, from your having been present at the triumph of the birth of another Buonaroti; for which news I give you my best thanks (10); but I do not like such pomp: for man should not laugh when all the world weeps; wherefore, I think Leonardo should not make those rejoicings for the birth of a child, which should be reserved for the death of one who has

lived well. Do not wonder at my not answering you immediately: I have delayed a little, that I might not appear like a merchant. Now, I will tell you, that if I deserved but the least part of the great praise you bestow on me in your letter, I should think that, when I entirely gave myself to you in mind and body, I had given you something, and thus paid some small portion of the great debt I owe to you. On the contrary, I always recognise you as my creditor for a sum much larger than I have means to pay. Being much advanced in age (11), I no longer hope to be able to strike a balance in this world; but I do not despair of doing so in the other. Meanwhile, I beg you to have patience, and I am always yours. Affairs go on much the same!

Rome.

To the same.

My dear friend George,—I call God to witness, that Pope Paul the Third, ten years ago, forced me to take the management of St. Peter at Rome (12), though I was very reluctant to accept it; and if they had continued working at that building, as at that time they did; I should now be so much advanced in the construction of it that I should wish to return amongst you; but from want of money it has been greatly delayed, and is still delayed, when it has just reached the most laborious and difficult parts; so that, if I abandoned it now, I should only lose, with the greatest shame and sin, the fruit of the hardships I have endured these ten years for the love of God (13). I write you this as an answer to yours, and also because I have received a letter from the Duke, which makes me wonder how his grace has deigned to write with so much kindness. I thank God and his excellence for it as much as I can. I wander from the question; having lost both my memory and head, and because writing gives me great trouble, not being my art. The object of this, however, is to make you understand what would ensue if I abandoned the abovementioned building and departed from Rome: I should please several thieves, cause its ruin, and perhaps lose my own reputation for ever.

To the same.

My dear George,—I cannot write with facility (14), but notwithstanding I will say something in answer to your letter. You know Urbino (15) is dead. This was a very great favour that God

was pleased to bestow on me, but it caused me also a serious loss, and immense grief. The favour was, that whilst he was in life, he kept me alive; in dying, he taught me how to die, not only without being sorry for it, but to wish for death. I kept him twenty-six years with me, and I have found him very precious to me and faithful; and now that I had made him rich, and that I expected him to be the support and comfort of my old age, he has been taken from me, and no other hope remains but that of seeing him again in paradise; and God gave me an indication of this by the happy death of my companion, who regretted much more than dying the leaving me in this treacherous world amidst so many troubles. My greater part is gone with him, and nothing remains to me but an unbounded wretchedness. I recommend myself to you.

To the same.

My dear friend George,—I have received the little book of M. Cosimo, which you sent me, and I enclose you a letter of thanks to him. I beg you to forward it, together with my compliments. I have lately undergone great fatigue and expense, and also had great pleasure, in the mountains of Spoleti (16), visiting those hermits; so that I returned to Rome less than half myself: because it is really impossible to find peace except in the woods. I have nothing else to say. I am glad you are well, sound in health, and happy, and I commend myself to you.

Sept. 18, 1556.

To the same.

May it please God, Vasari, that, though with great trouble, I may keep myself in life a few years more. I know you will say I am old and silly when I presume to make sonnets; but I am become a child again, just as many people say, and thus you see I am but playing my part. I see from your letter how much you love me; and I assure you I should like to lay my bones by the side of those of my father, as you wish me to do; but in leaving this place at present, I should be the cause of a great ruin to the building of St. Peter, which would be a great shame and a great sin; but as soon as it is carried in a manner that it may no longer be altered, I hope to do as you write me; if it is not already a sin to disappoint a number of greedy cormorants, who anxiously wish for my departure.

To Messer Benedetto Varchi.

To show you in some manner that I have received your little book, I will send you something in answer to your question, though it may tend to show my ignorance (17). I say then that painting seems more esteemed when it most approaches relief, and that relief is thought worse in proportion as it most approaches painting. On this account I used to think that sculpture was the source of light to painting, and that their difference from each other was like that of the sun and the moon. Now, after having read in your little book that part where you say that, philosophically speaking, things which have a common end are the same, I have changed my opinion, and I say, that if superior judgment and difficulty, impediment and labour, do not constitute superior worth, painting and sculpture are the same thing; and, in order that they should be thought such, every painter should consider sculpture as not less than painting, and the sculptor esteem painting equally with sculpture.—I mean by sculpture, that which consists in cutting off: for that which consists in adding, is like painting. I shall only add, that as sculpture and painting proceed from the same intelligence, it would be better to, cause them to make peace together, and to give up so many disputes; for people lose more time in them than in making figures. He who wrote that painting was more noble than sculpture would have been surpassed by my own servant, if she had equally known the other things which he wrote. There is an infinite number of things to say about that science, which never were said before; but, as I have said, this would take too much time, and I have very little of it to waste, being not only an old man, but almost in the number of the dead. I therefore beg you to excuse me, and I recommend myself to you, and I thank you as much as I can or know how, for the excessive honour you do me, of which I am quite unworthy.

Rome.

To Messer Bartolommeo.*

It cannot be denied that Bramante was (18) as excellent in architecture as any other man of ancient or modern times. He laid the first stone of St. Peter; not full of confusion, but clear, plain, luminous, and insulated all around, so that it was of no prejudice to the rest of the

* Most probably Ammanati, the architect.

place, and was held as a beautiful thing, as it is still manifest : so much so, that whoever has departed from the said order of Bramante, as Sangallo did, has departed from perfection ; and if any man will but observe his model with unprejudiced eye, the truth of this assertion will be very easily seen. By means of the circle which he makes outside, he takes all the light from the plan of Bramante ; and, besides that, he has no light to the numerous hiding-places which he makes below and above the choirs in his own plan, which offers great accommodation to many offenders — such as the hiding of banditti, false coiners, &c. ; so that in the evening, when the church is shut, twenty-five persons would hardly be sufficient to find out one. There would also be this inconvenience, namely, that by surrounding the above mentioned work of Bramante with the outside addition of the model, it would be necessary to pull down the Cappella di Paolo, the rooms of Piombo, the Ruota, and many others ; nor do I think that the Sistine chapel would remain entire. About the part of the outside circle that has been made, which is said to have cost a hundred thousand crowns, it is not true ; for it might be built at the expense of sixteen thousand ; and if it were pulled down, the loss would be trifling, as the stones and the foundations could not be better adapted, and the building would be worth two hundred thousand crowns more, and would last three hundred years longer. This is my opinion, and quite an unbiassed one : for if it were adopted, I should lose a great deal by it ; and if you can make the Pope understand this, you will do me a great pleasure ; for I am not at all tranquil. Yours, &c.

To Cosimo, the first Duke of Florence.

Most illustrious Lord Duke,—The Florentines have several times expressed a very great wish to build here in Rome a beautiful church of St. John (19). Now in the time of your most illustrious lordship, hoping to obtain more accommodation, they have resolved to build it, and have appointed a committee, composed of five individuals, who have made me repeated requests and entreaties to let them have a design. As I well knew that Pope Leo had begun building the church above mentioned,

I answered them that I would not engage in it without the permission of the Duke of Florence. It since happened that I received a very kind letter from your lordship, which I consider as an absolute order to undertake the construction of that building, which will give your lordship the greatest pleasure. I have already made several plans of it, and the above mentioned deputies have given the preference to one which will be sent to your lordship, and only be executed in as far as may please you. I much regret that I am old (20), and in such discrepancy with life, that I can promise very little concerning this building. I will do with all my heart as much as I can for your lordship, and I recommend myself to you, &c.

Rome.

My Lord Marquis, — It appears that, being in Rome, there was no necessity for leaving the crucifix to M. Tomao, and make him the intermediary between your lordship and me your servant, in order that I may lend you my services, and principally as I have always desired to do more for you than for any other man that I ever knew. But the great occupation in which I have been, and still am engaged, has prevented me from letting your lordship know this. And as I know that you know that love will have no master, and that those who love do not sleep, so there was still less need of such means. And though it might appear that I had forgotten my duty, I was doing what I said I was not, for the purpose of presenting you something unexpected. My plan has failed.

“ *Mal fa chi tanta fè sì tosto oblia.* ”

Wrong does he who so much fidelity so soon forgets.

To Cornelia (21).

I had some apprehension that you were offended ; but I could not find out the reason. Now I think I perceive it, from your last letter. When you sent me the cheeses, you wrote me that you intended to send me many other things, but that the handkerchiefs were not yet finished ; and in order that you should not go to any other expense for me, I wrote you not to send me anything else, but to ask me for something, as I would have complied with your re-

quest with the greatest pleasure ; for you know, or rather are persuaded of the great affection I still feel for Urbino and what belongs to him, though he is dead. About my coming to see the children, or your sending Michael Angelo here, I must tell you in what situation I am. Your sending Michael Angelo here would not do, because I am without women and without housekeeping, and the child is still too tender, and something might happen which would grieve me much. Besides this, the Duke of Florence is so kind as to press me exceedingly to return to Florence ; making me some very generous offers. I have asked him time to settle my affairs here, and to bring the building of St. Peter to a good conclusion ; so that I think I shall remain here all this summer, and that, after having arranged my affairs and yours about the mountain of the faith, I shall go to Florence for good, next winter ; for I am now old, and I shall have no longer time to return to Rome. I will pass by you ; and if you will give me Michael Angelo, I will keep him in Florence with more affection than I have for the children of my nephew Leonard ; teaching him what I know, and what his father wished him to know.

Yesterday, the 27th of March, I had your last letter.

Rome. M. A. BUONAROTI.

To Pietro Aretino.

Magnificent M. Peter, my master and brother,—Your letter caused me pleasure and pain at the same time. It gave me great joy, because it came from you who, in point of merit, stand alone in the world ; and it gave me great regret, because, having executed a great part of the subject, I cannot make use of your imagination, which is so powerful, that if the day of judgment had taken place, and you had been present at it, your words could not describe it better. Coming, then, to answer that part of your letter where you offer to write something about me, I beg to say that I shall not only be glad of it, but that I supplicate you to do so, since kings and emperors receive as the greatest favour that of being mentioned by your pen. Meanwhile, if I have anything in my power which may please you, I offer it to you with all my heart. And lastly, do not, for the sake of seeing the picture which I am now making, break your determination of not coming to Rome ; for it would really be too much.

LETTERS OF PIETRO ARETINO.

To the Divine Michael Angelo.

In the same manner that not being mindful of God is a spot on one's reputation, and a sin of the soul, so not reverencing you, venerable man, who are a butt of wonders in which the propitious stars strove to dart all the arrows of their favours, would blemish the worth, and dishonour the judgment of those who have any worth or judgment at all. Hence it is the idea of a new nature dwells covertly in your hands, by which the difficulty of extreme lines (a very great science in the subtleties of painting) is so easy for you, who enclose in the extremities of bodies the limits of art ; a thing which art itself avows to be impossible to carry to perfection ; for extremities, as you well know, should enclose themselves, and then end in such a manner, that, by showing that which they do not show, they should promise things, which the figures of the chapel do promise to those who know how to judge and admire them. Now I, who, with praise and with infamy,

have dispatched the greatest portion of others' merits and demerits, not to turn the little I am into nothing, I salute you. I should not certainly dare to do so, if my name, by its being welcome to the ears of princes, had not lost a great deal of its unworthiness ; and it is quite right that I should regard you with such reverence, for the world has many kings, but only one Michael Angelo. It is a great wonder that nature cannot hide anything so deeply that it be not found by your ingenuity, or impress in her works that majesty which characterizes the immense power of your style and of your chisel ; on account of which, those who see you do not care for not having seen Phidias, Apelles, and Vitruvius, whose spirits were the shadow of your own. But I think it was very lucky for Parrhasius, and other ancient painters, that time has not allowed their productions to live until the present day ; whence we still give credit to the doubtful assertions of old panegyrists, and hesitate to grant you that palm which

they themselves would give you, by calling you a unique sculptor, a unique painter, and a unique architect, if they were placed on the judicial seat on which we are. But since it is so, why are you not contented with the glory you have acquired? It seems to me that you ought to be satisfied with having surpassed all others by your former productions: but I hear that, with the End of the Universe, which you are now painting, you intend to surpass the Beginning of the World, which you formerly painted, in order that, by surpassing your former performances, you may obtain a triumph over yourself. Who would not tremble at undertaking a subject so terrible? I see, in the middle of the multitude, Antichrist, with an appearance only imagined by yourself: I see terror in the face of the living: I see the signs that the sun, the moon, and the stars give of being about to be extinguished: I see fire, air, earth, and water, as it were, exhaling their spirits: I see apart Nature astounded, and barren, crouching in her decrepitude: I see Time, lean and lingering, which, having arrived at its end, sits upon a dead trunk; and whilst I hear the trumpets of the angels shaking the hearts of every bosom, I see life and death oppressed by a frightful confusion; because the former strives to raise up the dead, and the latter to batter down the living: I see Hope and Despair guiding the troops of the good, and the crowds of the wicked: I see the spectacle of the clouds, coloured with the rays proceeding from the pure flames of heaven, upon which Christ, surrounded with splendours and terrors, sits in the middle of his hosts: I see his face glittering with a serene and terrible light, which fills the good with joy, and the wicked with fear. Meanwhile I see the minister of the abyss, with glory of the martyrs, deriding, with horrible aspect, Cæsar and Alexander, it being much more difficult to conquer oneself than the world: I see Fame, with her crowns and her palms under her feet, thrown on the ground, under the wheels of her cart. Finally, I see the great sentence coming out of the mouth of the Son of God: I see it in the form of two arrows, one of salvation, and the other of damnation; and whilst I see them flying downwards, I hear its fury striking against the machine of the elements, and destroying and solving it with tremendous thun-

ders: I see the lights of paradise and the furnaces of the abyss, dividing the darkness fallen on the surface of the air; so that the thought which represents to me the image of the new day, asks me, if we tremble and fear in contemplating the work of Buonaroti, how shall we tremble and fear when we see ourselves judged by Him who is to judge us? But do you think that my resolution of never seeing Rome again will not be broken by the wish of seeing your picture? I prefer giving the lie to my deliberation, rather than doing wrong to your merits; and I beg you to accept kindly my wish of celebrating them.

Venice, Sept. 15th, 1537.

To the Great Michael Angelo Buonaroti.

As I have no emerald vase like that in which Alexander the Great kept the works of Homer, when Messer Jacopo Nardi, a venerable man, both from age and from wisdom, delivered me your most precious letter, I sighed that your merit is so great, and my power so little: so that, having no nobler place, as soon as I had reverently read it, I placed it with ceremony in the sacred diploma, which I preserve in memory of the high goodness of the Emperor Charles V., in one of the golden cups which the courteous and immortal Antonio da Leyva once gave me. But as it is a pity that you spent such a precious time in answering me, I say that you had already done me too much favour in accepting my letter, which I wrote, not to give you advice in your picture of the Judgment, for it is impossible to imagine anything which is not inferior to your works, but only to encourage you to undertake it. You are certainly a divine person; and thus those who speak of you should make use of superhuman expressions; for, in using common words, they would either show their ignorance, or not say the truth. I receive as a particular favour the permission you give me to write a part of what you know, as I can; and, in order that you may see the beginning, I send you the volume, in which I have in several instances made use of your name, for the purpose of doing honour to myself with its glory. But should not my devotedness obtain from the prince of sculpture and painting a piece of those cartoons which you even give to the fire, that, whilst I live, I may enjoy it, and, when I die, I may carry it with

myself into the tomb? I know that the excellence of the friend whom I entreat will not disdain the boldness of my entreaty, both because he is of gentle blood, and because he will not give the lie to the proffers which he made me of himself, and of everything that belongs to him.

Venice, 20th Jan., 1538.

To Michael Angelo Buonaroti.

If the emperor was not as great in glory as in power, I should prefer the joy that filled my heart when Cellini wrote me that my compliments had been agreeable to you, to the stupendous honours which his majesty was pleased to do me; but as he is a great captain as well as a great emperor, I shall say that, on hearing that, I was as much gratified as when his clemency allowed me, the least man in the world, to ride at his right side. But if, by agreement of the public voice, you are revered even by those who are ignorant of the miracles of your divine intellect, why should not one believe that you are revered by me, who am almost able to understand the excellence of your genius, and whose eyes, without seeing your tremendous and venerable Day of Judgment, were filled with tears of affection? Think, now, how much I should have wept in seeing the production of your sacred hand. If I were so fortunate, I would thank God for having kindly disposed that I should be born in your time, which I repute as glorious as being born in the time of the Emperor Charles. But why, Sir, do you not reward my extreme devotedness to your heavenly qualities, with a relic of those papers for which you care the least? I assure you I would more appreciate two charcoal lines upon a piece of paper, than any cups or chains that this or that other prince ever presented me. Though my own unworthiness should prevent your complying with my wish, I am almost satisfied with the promises of hope. I enjoy them whilst I hope to obtain them; and in hoping them, I contemplate them; and in contemplating them, I congratulate myself on the fortune I have in being contented with the hoped thing, which must one day be converted from a dream into actual vision. You are my idol.

Venice, April, 1544.

Divine Michael Angelo,

Your kindness in sending me your compliments in your letter to Cellini had the same happy effect upon the congregation of my spirits that the sweetness of forthcoming spring has on the troops of birds, when, by a certain silent modulation of pleasure between themselves, they are led to open their throats to harmony. I am, therefore, compelled to seize the pen, and to write to you in the best manner I can; for, as I ought, I cannot: and in writing, I must confess that I am not surprised at your not having fulfilled your promise by the present of some drawings; for people who do not obtain what they wish, should attribute the cause of their disappointment to their wishing what they ought not to wish. The eagerness of our desires sometimes leads us to wish for things which do not suit our condition; so that the power, which is placed in others' will, often causes our disappointment, as just happens to me, on account of seeking for figures, which the halls of kings are hardly worthy to possess. I, however, deserve to be punished with the enjoyment of them; for it is not permitted that you, the possessor of the infinite gifts of which heaven has been kind to you, should be so avaricious of them, seeing the devotion that the people of this world show for them. But if there are persons who have some title to have a share in them, I am certainly of the number; for nature infuses so much power in my writings, that she promises to carry their merits to all places and to all times: therefore you should at last satisfy my expectation with the reward that I have been so long wishing; not because I believe myself such, as pride has just incited me to boast myself, but because I long too much to portray some of the wonders continually produced by the divinity which presides over your intellect.

Venice, April, 1545.

Messer Michael Angelo,

Mr. Antonio Anselmi, a true tongue of your praise, and soul of my affection, besides presenting you the regards of myself, who adore you, will excuse neither more nor less the importunity with which I pursue you, from my extreme wish of obtaining some of those drawings of which you are so prodigal to the fire, and so avaricious to me.

Venice, April, 1546.

NOTES.

Letter to Luca Martini.

(1.)—Luca Martini was a member of the Florentine Academy, a very lively burlesque poet, and a great friend of Michael Angelo.

(2.)—Bottari says that the Bartolommeo Bettini here mentioned is the same who wrote the memoirs upon which Varchi compiled his history.

(3.)—The commentary was written by Varchi.

(4.)—Domenico Giannotti was a very wise and intelligent Florentine, elected secretary of the *Dieci di Libertà*, in competition with the great Machiavelli, at the time when Florence was under her popular government. It was at his request that Michael Angelo made, for Cardinal Ridolfi, that head of Brutus mentioned by Vasari.

Letter to Vasari.

(5.)—Julius III. wished to build in the church of St. Peter at Montorio, a marble chapel with two sepulchres, one for Cardinal Antonio de' Monti, his uncle, the other for Messer Fabiano, his grandfather; and having ordered Vasari to make the plans of it, he afterwards requested Michael Angelo to fix its cost. When this was done, Vasari begged the Pope to induce Michael Angelo to take the superintendence of the works, and Michael Angelo willingly condescended to do so, from his great affection to Vasari; who soon afterwards left him also the care of laying the foundations, having been obliged to go to Florence. Whilst Michael Angelo was preparing the foundations at Montorio, the Pope changed his mind, which happened by the interposition of Messer Bindo Altoiti, who advised his holiness to have the sepulchres and the chapel in the church of San Giovanni, in the hope that by these means that church would at last be brought to perfection. As Vasari says that Altoiti had informed him that he would have done so, and asserts besides that Michael Angelo had also been informed of it, one can hardly understand what he means by saying that the Pope *would hear nothing about it*. It would appear that Buonaroti had tried to keep the Pope in the same resolution, whilst Vasari also says, that Michael Angelo had promised to support the project of Messer Bindo, as he

actually writes he did, and for reasons which it was useless to write about, since, if they had settled the matter together, Vasari must have known them. It is most likely that Michael Angelo was not informed of anything, and that Altoiti conceived his plan of inducing the Pope to build the chapel in San Giovanni of the Florentines whilst Vasari was absent from Rome.

(6.)—He calls Vasari *resuscitator* of the dead, because he had just published his *Lives of Painters, Sculptors, and Architects*, of which the first edition was made by Torrentino in 1550.

(7.)—Bartolommeo, see note 2.

(8.)—M. Angelo calls *Tante cose*—so many things (meaning a busy-body)—Messer Pietro Altoiti, Bishop of Forlì; and he gives him that sneering title, because he was eager to have his hands in every thing.

Second Letter to Vasari.

(9.)—Whilst the Florentines were endeavouring to collect money to finish the church, some difficulties arose which prevented Altoiti's project from being executed.

After Vasari, together with Bartolommeo Ammanati, a Florentine sculptor and architect, had procured from Carrara a large quantity of marble for the construction of the chapel at Montorio, Bartolommeo went to Rome to work at them. Buonaroti had proposed him instead of Raffaello, the sculptor from Montelupo in Tuscany, whom he would not allow Vasari to employ, on account of his unbecoming behaviour in the formation of the statues for the sculptures of Julius II.

Third Letter to Vasari.

(10.)—Michael Angelo sent this letter in answer to Vasari, who had informed him that his nephew, Leonard, had just had a son, whom an honourable train of noble ladies had accompanied to baptism. Leonard announced to him also the same news, and Michael Angelo wrote him another letter, of which the original is preserved in the Vatican manuscripts:—“Leonard,” says he, “I learn by your letter that Cassandra has made you a present of a beautiful son, whom you intend to call Buonaroto. This, as well as Cassandra's quick recovery, gave

me the greatest pleasure. God be thanked for it! and may he be pleased to make him good, that he may do honour to our house, and sustain it. Thank Cassandra, and remember me to her. The only thing that remains to do, is that about which I wrote you some months ago,—if you should meet with a respectable and well-situated house for sale, to let me know; and thus I write you again, that if such a house should present itself, you must not fail to inform me. If you do not think it unseasonable, you might look for it now.—From Rome."

(11.)—Michael Angelo did not call himself old without reason: he was at that time in his eightieth year.

Fifth Letter to Vasari.

(12.)—Condivi says that Michael Angelo exercised the profession of architect with reluctance; and that when Antonio da San Gallo, the architect of St. Peter, died, Pope Paul III., seeing that, in spite of all his entreaties, Michael Angelo declined to undertake the work, alleging that architecture was not his art, at last took the resolution to command him; giving him, however, very ample powers, which were afterwards confirmed by Julius III.

(13.)—If Michael Angelo *worked for the love of God*, or *gratis*, it was his own fault, and not because the Pope had refused to remunerate him. Condivi says that Michael Angelo never would accept anything for his services, and had required it to be so specified in the agreement. The Pope, notwithstanding, sent him once a hundred crowns of gold by Messer Pier Giovanni, the Bishop of Forli, then the chamberlain of his holiness, as his salary for a month, on account of the fabric; but Michael Angelo refused them, saying that he had made a different agreement, and he sent them back. The Pope was angry; but Michael Angelo was not to be moved from his resolution.

The words with which that great Pope expressed himself, when he granted Michael Angelo the ferry of Piacenza, (which Vasari wrongly calls Parma,) are the following:—"The happy memory of Clement VII., our immediate predecessor, first, and then ourselves, being desirous to remunerate and satisfy you for the picture to be made on the wall of the altar of our chapel, representing the history of the Last Judgment; con-

sidering your labour and your merits, with which you amply adorn our age, we promised, and still promise you by the present brief, the yearly income of 1200 golden crowns during your life; and in order that you may continue and bring to an end the said work which you began with our apostolical authority, by virtue of the present brief we grant you, during your life, the ferry on the Po, near Piacenza, enjoyed by Francesco Burla, when he was living, with the usual emoluments, jurisdictions, honours, and duties, as a part of the said income promised to you, viz. for 600 golden crowns, the sum we hear the said ferry annually yields, continuing our promise, as regards the other 600 crowns during your life; ordering our vice-legate of Cispadane Gaul, who is there now, and those who may be there in future, and our beloved children, the Anziani and the corporation of the said town of Piacenza, and all others whom it may concern, to give you or your agent the possession of the said ferry, and the exercise of the same, and to maintain you in it, after having given it to you, and to make you enjoy peacefully this concession during your life, notwithstanding anything to the contrary, &c. Rome, 1st Sept. 1535, the first year of our pontificate."

(14.)—Michael Angelo said also that writing was not his art, and besides that, on this account, he often declined answering by letter. He also left off writing a work on drawing, which would have been of that utility to art which it is easy to imagine. Whilst, however, he said he could not write, he composed some most beautiful verses; and his letters themselves are more than sufficient to prove that he might have become an excellent prose writer, if he had but chosen to attend to it.

Sixth Letter to Vasari.

(15.)—This Urbino was a Francesco Amatori from Urbino, whom Antonio Franzese had placed with Buonaroti in 1530. When Antonio Mini, pupil of Buonaroti, went to France, Francesco began to serve him in a very praiseworthy manner, and he continued to do so for twenty-six years, until Michael Angelo, as Vasari says, *made him rich*. He gave him a great deal of money, even 2000 crowns at one time; and besides that, he obtained him the place of guardian of the pictures of the Sistine chapel, for which

he received from the apostolical treasury four crowns every month, with an addition of six monthly ducats of gold for life. His duty was, as expressed in the *moto-proprio* of Paul III., to preserve from dust and other dirt the pictures of the ceiling already made in the Sistine chapel, and the other pictures and ornaments of the chapel and halls built by the said Pope, and also to preserve them from the smoke of the lights which are used for the celebration of divine offices. When Francesco died, Vasari wrote Michael Angelo a letter of consolation which was answered by the present.

Seventh Letter to Vasari.

(16.)—This letter was written by Michael Angelo to Vasari, after his return from Spoleti, where he had fled a short time before the French army approached Rome.

He mentions Messer Cosimo Bartoli, the curate of St. John of Florence, a very learned man, and a member of the Florentine academy, who published the book called a "Defence of the Florentine Language, and of Dante," which Charles Lenzoni, a learned member of the same academy, whilst dying, ordered Giambullari to inscribe to Michael Angelo.

Letter to Varchi.

(17.)—Though Vasari says he speaks as an ignorant man, it seems he says in these few words much more than many learned men, who, in spite of the opinion of such a man, would continue to lose their time in writing about a question of no utility. Buonaroti always considered it as such; wherefore, when he was questioned by Vasari, he answered sneering, "that sculpture and painting have the same end, obtained with great difficulty on both sides; and he could draw no more from him."—*Varchi, Two Lectures, &c.*

Letter to Messer Bartolommeo.

(18.)—Bottari says, that this letter is

in the possession of the heirs of Michael Angelo, and is written to a friend of his whose name is not mentioned.

"The model of Antonio San Gallo is very large, and is still preserved at Belvedere."—*Bottari.*

Bottari says "he mentions the Paoline chapel, the room where the bulls are sealed, and the hall where the auditors of Rota assemble. It may be observed, that whilst Michael Angelo speaks here of Bramante with the praise that was due to him, when he went to the Pope, Julius, to complain of him, he did not refrain from criticising him much also about architectural matters."—*V. Condivi.*

Letter to the Grand Duke.

(19.)—Pope Leo had also made that church the parish of the Florentines, who lived at Rome even from the year 1519.

(20.)—Michael Angelo was very old, and as he could not make plans for architectural drawings, he employed Tiberio Calcagni, a gentlemanlike and prudent person: he therefore ordered Tiberio to make the plan of the place of the church; and whilst people thought that he was doing nothing, he sent word to the deputies that he had served them. In fact, he had not only prepared one plan, but five, and all very beautiful, and the deputies chose the richest. It may appear strange that Michael Angelo made his models with clay; but, as a sculptor, he was more experienced in clay than in anything else. Benvenuto Cellini says, that Michael Angelo being once desirous to show some stone-cutters some shapes of windows, before he proceeded to show them by drawings, he made them also with clay.—*Varchi, Two Lectures, &c.*

Letter to Cornelia.

(21.)—Bottari thinks that this Cornelia was the wife of Urbino, and Michael Angelo's *Comare*; and that the Michael Angelo here mentioned was her son, godson of Buonaroti.

STUDIES OF M. ANGELO.

THE original studies of M. Angelo for many of his great works are still remaining, and were executed in different styles. The original design was sketched in merely to show the composition and effect of the figure, and was executed with a boldness and firmness

which nothing but the hand of such an artist could express, whilst the finished and corrected drawing, executed in pen, shows the most masterly knowledge of nature, and power of correct design, as well as knowledge of the anatomy of the figure.

Extract from Hayley's Life of Romney.

"It is probable that his professional writings, mentioned by his scholar Condivi, have perished; although Gori, in his notes on Condivi, probably meant to include them in his enumeration of Michael Angelo's writings; namely, 'I Ragionamenti, le Lettere, e le Rime.' I conclude the Ragionamenti to be lost, as they would not otherwise have escaped the researches of M. Angelo's last and very accurate and zealous biographer. It may, however, gratify the curious to observe that some notice of them may be found in the work of a Florentine (Vicentio Carduchi), who rose to considerable eminence as a painter in Spain. He published at Madrid, about seventy years after the decease of M. Angelo, 'Dialogues upon Art between a Master and his Disciple,' in the Spanish language. In the commencement of the work, the disciple enumerates the treatises he read for the acquisition of professional knowledge. After naming those of Albert Durer, Leon Battista, Alberti, and others, he mentions 'Algunos Discursos Manuscritos doctissimos de Michael Angel.' I do not recollect any later trace of such compositions; but this seems to prove that, in 1633, they still existed. It is remarkable that they are not mentioned by Vasari, who has not failed to declare that he heard his illustrious master and friend utter many admirable observations on art, which he, Vasari, intended to preserve and publish in the form of a dialogue; an intention that his editor Bottari says he never fulfilled."

Sculptors—Successors and Contemporaries of M. Angelo.

Baccio Bandinelli was one of M. Angelo's contemporaries, and to whom he was opposed. His works are bold, and the design vigorous, though mannered. Several of his works exist at Florence. Benvenuto Cellini, one of the most amusing writers of his time, was also an eminent sculptor of the same age; and though more generally known for his smaller works, still his "Perseus at Florence," which is the best of his larger works, proves him to have been one of the most distinguished artists of his time.

In mentioning the celebrated sculptors of his time, Propertius da Rossi, one of the most beautiful and accomplished women of her times, and who died in the flower of her age, must not be omitted. She executed some statues for the façade of a church at Bologna.—*See Vasari.*

Giovanni da Bologna was celebrated for his facility and freedom; but the art had taken leave of repose and simplicity. His bronze statue of Mercury, however, known all over the world, will always be regarded as the most elegant and poetical production of modern art.

Bernini, who was born at Naples, was an artist of the greatest promise, though, with the exception of the beautiful groupe of Daphne and Apollo, what he did seemed to subvert all true taste in sculpture; and with him began the style which ended with the French school, consisting of strained actions, uncommon arrangement of composition, and flying draperies, till statuary became a work of ingenuity and dexterity, rather than an art.

ANECDOTES OF MICHAEL ANGELO,

With some examples of what are termed his "good sayings."

It has been observed by some moralists, that the various qualities in any human character are so many elements forming one harmonious whole; whatever therefore serves to throw further light upon the minds of distinguished persons may be considered valuable as well as curious. It is for this reason, in order to afford a more distinct delineation of the lofty genius, the noble feelings, and the magnanimous disposition of the great man whose life and works form the subject of the preceding pages, that we now subjoin such of the sayings and the anecdotes attributed to him by Vasari and other biographers as do not

happen to have been already noticed in the course of the foregoing narrative.

Such, we are told, was the natural kindness and the benevolence of his disposition, (and it has been frequently mentioned to his honour,) that he was known to distribute considerable sums, by way of dowry, to young unprotected females or orphans, to defend them from the fate usually attending indigence and its exposure to vice. To his nephew likewise, whose circumstances were extremely circumscribed, he made frequent advances of money, as much, it is said, as three, and, some writers add, even as ten thousand ducats on the same day.

Pleased with the devoted attention of an aged domestic who attended his latter years, and who died before his master, M. Angelo one day asked him, "What was likely to become of him, should he himself be suddenly cut off?" "Alas, Sir," replied the old man, "I should be compelled to look for another service." "That you shall never do, my good Urbino; I will preserve you from the necessity of such a step;" and he presented him with 2000 crowns.

Though ever busily engaged in the world, solitude was not without its charms to a mind like Michael Angelo's. He once retired, as related in his Life, to the mountains of Spoleto, and when charged with his love of seclusion, he used to observe, that his art was a jealous mistress, and would only be content with the most devoted and exclusive love.

So great was the attachment which he felt throughout life for sculpture, that it continued undiminished to extreme age; and when no longer able to walk, it is said he caused himself to be conveyed into the court of the Belvedere, to contemplate the beauty of the statues. It is even asserted, that, when no longer able to see, he was accustomed to examine their proportions with his hands, and that he never retired without embracing them.

In the cabinet of the Grand Duke of Florence is still preserved an unfinished head of Brutus, stated to have been abandoned by the illustrious artist during its progress, "lest," as he observed, "he should be thought to give countenance to the parricidal crime of that celebrated Roman, by endeavouring to perpetuate his memory in the minds of posterity." At the foot of the intended bust is to be read the following Latin distich:—

*Dum Bruti effigiem sculptor de marmore ducit,
In mentem sceleris venit, et abstinuit.*

As from the stone the features start to view,
The sculptor paused, and from his task withdrew.

While Raphael was employed in one of the chambers of the Farnese Palace, M. Angelo is reported to have inspected the work in that artist's absence. But without observing what he thought of his rival's labours, he sketched the head of a fawn upon the wall, in a far bolder style and nobler proportions than the figures which he saw around him. No sooner had Raphael, on his return, become aware of it, than he exclaimed, that it could only be the work of M. Angelo. It is added, that the younger

artist availed himself of the tacit reproach it seemed to convey, by enlarging his own manner, and also that, with becoming reverence for superior genius, he chose rather to leave his own labours incomplete, than to erase that noble head, which is said to be still carefully preserved.

Sebastian del Piombo, who was no admirer of painting in fresco, induced Pope Julius II. to lay his commands on M. Angelo to paint the façade of the chapel of the Vatican in oil, which the noble artist as resolutely declined to do. At length, on being much pressed, he said, with some degree of warmth, "No—never! that is an employ fit only for idle persons or women!"

Another anecdote, but perhaps hardly so well authenticated as the last, is told of the same parties. It would seem that Julius, impatient to see the progress of the artist's labours, to which the latter was always extremely opposed, obtained admittance to the chapel when it was presumed M. Angelo would be absent. Angry at beholding spectators present against his express injunctions, and not aware of their dignity, the artist suddenly threw down a plank of the scaffolding, which, falling from one stage to the other with a terrible noise, caused such an alarm, that the Pope got out of the place as quickly as possible, and was careful how he renewed his private view of the great painter's unfinished labours.

In his great picture of the Last Judgment, it is said that M. Angelo introduced the portrait of a cardinal, whom he extremely disliked, into his representation of the infernal regions, and that it was so like him as to be easily recognized. The Pope saw it, and interceded for the poor cardinal, in order that it should be effaced, when M. Angelo is reported to have replied, that unfortunately he could not oblige his holiness, which he could have done had the cardinal only been placed in Purgatory, but that being in Hell, there was no redemption for him.

Upon being one day informed that the Pontiff, Paul IV., had been observing upon the nudity of the figures in the Last Judgment, and had desired that they might be retouched for the sake of propriety: "The Pope would do better," replied the painter, "to occupy himself with correcting the disorders and indecencies which disgrace the world, than with any such hypercriticisms."

A Florentine citizen having observed M.

Angelo one day stop at the San Michele to behold a statue of St. Mark executed by Donato, and inquiring of him what most particularly struck him in its appearance, the sculptor is reported to have replied, "It is the character of the good man, which I have nowhere seen surpassed; and if St. Mark was all that he is here represented, you need have no difficulty as to believing every thing which he wrote."

A certain painter having completed a work with extreme care, and taken yet more to derive a considerable profit from its exhibition, M. Angelo was asked what he thought of the author of it: "I think," was the reply, "that he will be a *poor fellow* so long as he shows such an extreme eagerness to become rich."

One of his early friends, who had entered the church, having arrived at Rome, waited upon M. Angelo in the splendid dress in which he had officiated at mass; but the latter, affecting great surprise, appeared not to recognize him. When informed by the young dignitary who he was, Michael, fixing his eye with a look of admiration upon his canonical finery, joyfully congratulated him, exclaiming, "Heavens! what a fine outside! if you be only half as beautifully decorated within, it must go well with your soul!"

Being desired by one of his friends to give his opinion of a sculptor who had imitated a number of the most celebrated antique figures in marble, and who boasted that he had even gone beyond the skill of the ancients, M. An-

gelo answered with a smile, "He who walks behind others can never go ahead of them; and the man who cannot do well without foreign aid, can never do any thing good even with the help of others."

A certain painter exhibited a work in which the figure of an ox was drawn, in a manner superior to any other part: and a spectator expressing his surprise at it, the great artist observed, that "There was no painter but could make a good portrait of himself."

On one occasion a sculptor, who had just finished his work, evinced a particular anxiety to throw the light into his rooms in such a manner as to exhibit the piece to advantage; but M. Angelo observed to him, "Do not give yourself this needless trouble; the light of the public square will best put its merit to the test;" alluding to the popular appreciation of its character.

A painter of the day exhibited a history-piece, in which there was scarcely a stroke of original power, the several parts having been made up of imitations of various designs and sketches by other hands. M. Angelo being asked his idea of it—"He has done well," was the reply, "not to copy from himself; but he will be awkwardly situated at the day of judgment, when all are to resume what belongs to them: for what will become of his unfortunate picture?" a saying by which he doubtless intended to convey his opinion of the necessity of self-reliance, and the cultivation of an artist's own powers.

LIVES OF M. ANGELO.

The Abbé Hauchecorne's Life of M. Angelo. 1783.

Giuseppe Piacenza has added a long account of M. Angelo in the third volume of his Life of Baldinucci; and Cicognara, "Storia della Scultura," has devoted a large portion to the works of M. Angelo and the events of his life.

Giorgio Vasari, Life of M. Angelo in his Lives of Painters, Sculptors, and Architects. 1550.

Condivi, Life of M. Angelo. Bottari, Life of M. Angelo. M. Duppa, Life of M. Angelo; and Notices by various historians and critics.

SIR CHRISTOPHER WREN ;

WITH SOME GENERAL REMARKS ON THE ORIGIN AND PROGRESS OF
ARCHITECTURE.

"ARCHITECTURE HAS ITS POLITICAL USE, PUBLIC BUILDINGS BEING THE ORNAMENT OF A COUNTRY; IT ESTABLISHES A NATION; DRAWS PEOPLE AND COMMERCE; MAKES THE PEOPLE LOVE THEIR NATIVE COUNTRY, WHICH PASSION IS THE ORIGIN OF ALL GREAT ACTIONS IN A COMMONWEALTH.

"IT AIMS AT ETERNITY; AND THEREFORE IS THE ONLY THING INCAPABLE OF MODES AND FASHIONS IN ITS PRINCIPLES (THE ORDERS,) WHICH ARE FOUNDED UPON THE EXPERIENCE OF ALL AGES, PROMOTED BY THE VAST TREASURES OF ALL THE GREAT MONARCHS, AND SKILL OF THE GREATEST ARTISTS AND GEOMETRICIANS, EVERY ONE EMULATING EACH OTHER; AND EXPERIMENTS IN THIS KIND, BEING GREATLY EXPENSIVE AND ERRORS INCORRIGIBLE, IS THE REASON THAT THE PRINCIPLES OF ARCHITECTURE ARE NOW RATHER THE STUDY OF ANTIQUITY THAN FANCY."—*Wren*.

CHAPTER I.

Of the Origin of Architecture and the different Styles, and the purposes to which they have been applied.

WE shall preface the account of the life of Sir Christopher Wren, whose name is associated with all that is great in English architecture, with a few general observations on the rise and progress of the art, which will in some measure serve as an introduction to the Treatise on that subject intended to be published.

It is generally admitted that the early architecture of Greece was indebted to Egypt for some of its rudiments; and yet it is impossible to institute the most careless comparison, without observing the very different character displayed in the earliest specimens of Grecian art, and particularly in sculpture. The causes of this diversity it is difficult now to define, although every variety of speculation has been exhausted on the subject.

In all the advances of the art, the principles of the early attempts, which had their origin in necessity, appear to have been constantly adopted in the improvements of the succeeding ages: the dark and ponderous buildings of the Egyptians have a near affinity to the caverns of their ancestors; and the ornamental and elegant architecture of Greece bears striking testimony to the early use of the timber with which that country abounded. In India the original employment of reed and bamboo is discovered in the lofty and slender buildings of later times; in China the roofs are always constructed in imitation of

the moveable tents of the aboriginal Tartars; and the same observation applies to Turkish and Saracenic buildings.

One of the peculiar features of Egyptian buildings is, that none of the specimens afford much evidence of variation, either in principle or in the constituent parts, during a very considerable period of time. Without entertaining great admiration for the beauty, the grandeur, or the simplicity of Egyptian structures, it is yet impossible to contemplate without wonder those immense and gloomy monuments of labour, in which, independently of situation and size, a very striking effect is produced by the peculiarity in the arrangement of the different parts, and by their vast groves of columns, obelisks, and colossal statues.

The external character of the Egyptian style is, however, in a great degree simple and imposing; the columns and decorations usually are internal, contrary to the Grecian architecture, in which the interior of the temples is comparatively plain, the columns, the statuary, and other ornaments being nearly all external. This may be traced, in some degree, to the difference of the climate.

In the contemplation of the Egyptian temples, their resemblance to the ancient buildings of India is peculiarly striking; and this naturally leads to the consideration of the discussions to which the early progress of ancient nations in architecture and some other arts has given rise.

In tracing the origin of the arts first practised by man in his progress from barbarism to civilisation, after those

necessary to insure his subsistence and clothing, that of providing shelter from the inclemency of the weather must have been the earliest cultivated. It has been frequently remarked, how soon man became acquainted with the means of fabricating cloth; architecture and weaving are amongst the first complicated arts practised by barbarians, and were even at an early period carried to considerable perfection: next to the care of necessities, the love of ornaments arises in the breast of a savage; and the art of fetching out the brilliancy of the precious stones and metals is, accordingly, one of the earliest which are noted in the progress of a rude people.

Architecture, weaving, and jewellery are the only arts for which the *Hindoos* have been celebrated, and even these, with the exception of weaving, attained but a low degree of perfection. The ancient buildings of Hindostan have been at different periods the subject of wonder, and considered as evidencing a high civilisation: yet there are productions in China of dimensions and importance vying with them. "The Mexicans, ignorant of iron, cranes, and scaffolds, with neither carts nor sledges, and no means of working their stones but with flints, ~~or of polishing them but by rubbing them against each other~~, accomplished works which in magnitude and symmetry rival any of which Hindostan can boast."

The Pyramids of Egypt, vast as are their dimensions, afford intrinsic evidence of the rudeness of the period at which they were reared. The sepulchre of *Belus* at Babylon, according to *Strabo*, was built of different bodies or stages one rising above another, exactly in the manner of the great Temple at Mexico, as is noticed by Humboldt, who also observed the resemblance between the Pyramids of Egypt and the vast Pyramids the remains of which are to be found in South America. The Palace of Montezuma strongly resembled that of the Emperor of China; and Knox, after remarking the passion of the Cingalese for constructing temples and monuments of enormous magnitude in honour of their Gods, observes, "as if they had been born solely to hew rocks and great stones, and lay them in heaps:" "the unsophisticated opinion," remarks Mr. Mill, "of a sound understanding on operations which the affectation of taste and antiquarian credu-

lity have magnified into proofs of the highest civilisation.*"

It is not intended to urge any arguments in detail as to the common origin of the buildings of India and the *Mono-lithic* (built of one rock) Temple of Egypt. The fact, however, that the Sepoys, in their march to join the army of Lord Hutchinson, conceived they had found their own temples in the ruins of *Dendyra*, is mentioned by Captain Light in his *Travels*, and so convinced were they of the identity, as actually to perform their devotions in them.

Monsieur Legrand, in his very interesting Essay on Architecture, attaches much higher value to Egyptian architecture than it deserves, describing it as "noble, severe, and imposing in the highest degree, and appearing still to resist the destroying hand of time after a lapse of four thousand years;" and he thinks that such ideas were not generated in the infancy of the art, as has been often imagined, but were "the fruits of a long continued civilisation, great knowledge, and a tending to lasting glory." "This elevated style," continues the author, rising with his subject, "which is not sufficiently understood, deserves to be profoundly studied in all its parts, and again adopted by those men whose aim is to astonish the present age, and to ensure the admiration of posterity." That Pyramids will be again built for the admiration of the present or of future ages is not to be feared; and it may be doubted, if Monsieur Legrand will by his eloquence conjure up a hardy spirit, who will undertake the task of handing down to posterity, at a vast expense, the dark and dreary monotony of the Egyptian Temples, at least not till we shall be again reduced to a state of society resembling that in which they lived who commanded them to rise, and till some king shall exist, "whose power being unlimited, is compelled to solace, by the erection of a Pyramid, the satiety of dominion, and tastelessness of pleasures, and the tediousness of declining life, by seeing

* *British India*, vol. i. p. 430.—The chapter of Mr. Mill, on the Arts of Hindostan, is particularly interesting, and contains a vast variety of curious matter, tending to show that the facts usually adduced as proofs of the early and complete state of civilisation amongst the Carnatic nations, do not establish the position contended for, and that Hindostan had not in fact made any greater progress in the arts than China, Mexico, or other nations still considered in a state of semi-barbarism,

thousands labour without good, and one stone for no purpose laid on another."

In considering the history and progress of art, its real importance to the happiness of mankind is a question which naturally occurs. If it be true that what are termed the fine arts are of the importance sometimes ascribed to them, their effects on the welfare of mankind may be expected to increase in proportion as they advanced towards perfection; and it is the opinion of some eminent writers, that they have not yet reached the utmost verge of excellence, and that we have still much to hope and to attain. To determine, however, this point, we must have some standard admitted to be just, some uncontroverted principles or axioms with which we can institute comparison, or by which we can measure our progress: taste is too indefinite for the purpose; it is claimed equally by persons who hold the most discordant opinions on the point, and whose repugnant pretensions rest upon the most opposite principles. Being incapable of transmission by very accurate rules of description, in practice taste frequently appears a term convertible with that of fancy.

Whatever doubts may exist as to the importance of the fine arts, the case is different with the sciences. In them; scarcely a discovery or an improvement is suggested but it becomes converted to the use of mankind: they leave no room for conjecture as to their merits, nor any hesitation as to their advance. The navigator, manufacturer, statesman, and philosopher concur in their opinions of their progress and effect; and our ameliorated condition affords the best testimony of their improvement. Whatever may be the comparative importance of the results flowing from these different branches of our knowledge, it is plain that they require at least the same general circumstances to favour their growth—exemption from the desolation of war, opulence to furnish rewards, and leisure to permit application: but, above all, a government should exist, in which the preponderating influence of the people forbids that a nation should be subject to the narrow views and interests which, with few exceptions, appear at all periods to have regulated the dominion of despotism. The suspicion natural to tyranny, and the dread that light or information should expose its deformity, makes it

feelingly alive to the dangers resulting from all freedom of inquiry.

It is impossible, nevertheless, to consider the unrivalled excellence which the arts attained during the prosperity of some of the Italian republics, without being convinced of the prodigious effects sometimes produced on the energies of the human mind, by an exemption not merely from the restraint of absolute authority, but even from the languor and tameness often produced by very regular governments, though in effect calculated for the tranquillity and comfort of a people. The internal condition of these states was a perpetual struggle of faction amongst the citizens, a contest for power and popularity amongst the rich, a defective administration of the laws, and a doubtful state of private morals. The same observations may, in a great measure, be applied to some of the ancient Greek republics;—and yet amidst such scenes were reared the most finished monuments of art, precious indeed, but purchased at far too high a price, if the alternations of anarchy and misrule were necessary for their production.

Architecture, as an ornamental science, may be supposed to have kept pace with the art of design, the improvements in each depending nearly on the same vigour of imagination and general refinement of taste; and the same powerful cause, or combination of causes, which (in Greece) so early produced by the operations of genius such a magical effect on the arts of design, exerted a similar influence on the state of architecture.*

Grecian Architecture.

From the contemplation of the solemn grandeur of the Egyptian monuments we proceed to the Greek temples, whose character is so different. Whilst struck with the size of the Egyptian buildings, we feel that they are the effect of incessant labour, the works of slaves, without much of the assistance of intellectual greatness, and that their importance arises chiefly from their extent. It is far otherwise with the works of Greece, where every line is expressive of the genius and imagination of the author; and, though great labour must have been exerted in their construction, yet the mind is relieved from all sense of pain by admiration of the result.

* *Introduct. to Trans. of Vitruvius,*

The Greeks being more lively in their manners than the Egyptians, and fonder of external show and processions, their temples exhibited a corresponding change; the front was adorned with a peristyle, sometimes double and even triple, as is seen in some of the remains in Sicily, Italy, Syria, &c.

The most perfect simplicity of form was united with the grandeur produced by the rows of columns: a low pediment crowned the façade for the purpose of receiving the slanting concealed roof; and the buildings were large and grand without partaking of the colossal appearance of the Egyptian. The interiors were unadorned, although at times some of the choicest specimens of sculpture were enshrined in them.

The simple grandeur of the Doric, bold without heaviness, rich without being overloaded with ornament, recording in its metopes all the eloquence of sculpture, and typical at once of the artless manners and bold deeds of the Greeks, was preferred by them during the best ages, to the Ionic and Corinthian, in all their great edifices. The Doric also had the peculiar advantage of being equally adapted to great and small edifices; to small, by the simplicity of the divisions and members; to large, by its bold proportions and the massiveness of the entablature.

The Romans followed the Greeks in the form of their temples, but added to their richness by the new and elegant orders with which they decorated them; they frequently substituted a stylobate (pedestal) in place of the steps which supported the Doric columns forming a continuous base, and preferred to this chaste and simple order the elegant and more refined Ionic and Corinthian; and even these they enriched to profusion, lengthening the pediment, and surrounding it by triumphal cars and statues of terra cotta and gilt bronze. The buildings themselves they surrounded by enclosures and colonnades.

The Orders of Architecture and Proportion.

The origin of the orders of architecture is a subject which has given rise to much fruitless and absurd discussion. Every member of the different orders, every part of the columns and the entablatures, has a variety of origins assigned to it, and each supported by a variety of advocates. One idea which

seems to have been very stoutly maintained, is the analogy between the proportions of the human figure and those of the orders; and so far is this idea carried by Michael Angelo, that he declares a knowledge of anatomy to be indispensable to an architect, who without it must be necessarily ignorant of his profession. It is certain, he observes, that the members of architecture have a reference to those of the human body; and he who does not understand the human figure, and particularly anatomy, can know nothing of the subject.

The intrinsic beauty of the Grecian orders has long been one of the dogmas of the connoisseurs. This has been, we think, completely exposed by Mr. Alison in his *Essay on Taste*. The true cause of this beauty may be reduced to the propriety or fitness of the building for the end designed, and nothing further: as, in plain buildings, and without any view to ornament, if the walls are of such a height as with our previous experience seems sufficient for their own stability, and for the support of the weight which is imposed on them, we consider the house to be rightly proportioned; whilst if the walls are so large as to appear insecure, or the roof so high as to seem too heavy for its support, the notion of ill proportion immediately occurs. This fitness, however, cannot be accurately measured, and, accordingly, no proportions are defined, and the general conclusions we have formed are our only guides.

But in what are termed the *Orders* of Architecture this is otherwise, and the proportions have been absolutely determined. They are five: the Tuscan, Doric, Ionic, Corinthian, and Composite. The first and last, however, are generally rejected. In considering the orders, it must be remembered, that the *proportion*, not the *ornament*, constitutes the order. Every order consists of three great divisions: the base, the column, and the entablature, or that part which is placed immediately above the capital of the column; and the governing proportions relate to this division, the whole in fact composing a wall, or what in common buildings would be the wall. Though the wall derives its proportion in an order, from the intention of supporting the roof, yet it is complete without the roof; and when there is one, it is generally so contrived as not to appear: the weight which is, or appears

to be supported, being the entablature: the fitness, therefore, here, consists in its appearing adequate to the support of the entablature:—"and the appearance of these proportions," observes Mr. Alison, "seems to lead us to this conclusion. Thus in the Tuscan, where the entablature is heavier than in the rest, the column and base are proportionably stronger; while in the Corinthian, where the entablature is lightest, the column and base are proportionably slighter: this position is confirmed by the general use of the term *proportion* in its general acceptation, which implies *fitness to the end designed*: heaviness and slightness are the terms more generally used to express a deviation on either side from the proper relation; both obviously including the consideration of support, and expressing the want of proportion. If our perception of the beauty of proportion were in such cases altogether independent of any such considerations, these circumstances in language could not possibly take place; and it would be as possible to explain the nature and beauty of proportion by terms expressive of sound or colour, as by terms expressive of fitness or propriety.

"That there is no absolute beauty in the proportions of the orders, independent of that arising from fitness, is obvious. Mankind, however, soon acquire ideas of bulk and support; and the feelings of persons in general, on viewing the proportions of an order, are to be considered rather as satisfaction than delight: that which creates the delight, is the magnificence, the grandeur, and the costliness, which such buildings usually display. This is well illustrated by conceiving the entablature as the weight to be supported; and, of course, a certain form and size in the column is demanded for this; and in the base, for the support of both. A plain stone, for instance, set upon its end, has no proportion further than for the purpose of stability; if it appears firm, it has all the proportions we desire, and its form may be varied in a thousand ways, without interfering with our sense of its proportion. Place a column, or any other weight, on this stone, immediately another proportion is demanded, namely, that which is the proportion adapted to support this weight; though the form supported has no proportion further than that which is necessary for its stability, or for continuing in its

situation. Above this, again, place an additional body, and immediately the intermediate one demands a new proportion; *viz.* a proportion suited to the weight it supports; and the first part, or the base, demands also another proportion in consideration of the additional weight which is thus imposed upon it. On this supposition, it is obvious that the consideration of fitness alone leads us to expect a certain proportion in each of these parts, and the parts are pleasing or beautiful just as they answer this demand."

Mr. Alison, however, admits, that the mere consideration of fitness is insufficient to account for the pleasure so universally derived from the established orders, which have been so long adhered to without any attempt at deviation. This is justly to be attributed to other feelings unconnected with proportion, arising from the ornaments, the materials, and the size; and more particularly from the associations which arise on a contemplation of the *Grecian* orders; although we are inclined to attribute our admiration to the style of the architecture alone.

One of the objections which may be urged against these positions, is the fact, that notwithstanding there is no intrinsic beauty in the proportions of the orders, yet they have, for a long period, been adopted without any attempt at alteration, which would seem to indicate that they were intrinsically beautiful. But the feelings and motives which would in most other objects of art lead to a variation, do not exist with respect to architecture. Of all the fine arts, architecture is the most costly; and the wealth even of nations is equal only to slow and infrequent productions. The value of such objects is therefore, in a great measure, independent of fashion; the invention of men is little exerted to give an additional value to subjects, which in themselves are valuable; and the art itself, after having arrived at a certain necessary degree of perfection, remains in a great measure stationary, both from the infrequency of cases in which invention can be employed, and the little demand there is for its exercise.

In addition to the costliness of the production, we must consider its durability; since it is only those productions of which the materials are perishable, and require often to be renewed, that are subjected to the in-

fluence of variety. The works of architecture are designed to last, and do last for centuries: the life of man is of far less duration than such productions; and the present period of the world, though old with respect to those arts which are employed upon perishable subjects, may be considered as yet young in relation to an art which is employed upon such durable materials as those of architecture. Centuries must elapse before works of this class demand to be renewed. The sacredness of antiquity is acquired in the mean time, and a new motive given for the preservation of similar forms.—We have considered Mr. Alison's positions so true, and so important to the due consideration of the subject of the orders, that it has been necessary to give them at length.

In observing on the nature and effect of Grecian architecture, it is necessary to advert to a singular position of the learned writer of the Introduction to the translation, of Vitruvius, (Lord Aberdeen,) namely, that the ancients never possessed any knowledge or perception of those qualities of external objects which are called picturesque. The admirable positions of the Temple of Minerva, the approach (on the angle) to the Temple of Jupiter Olympius at Athens and Sunium, and many other examples, may, we think, be quoted as ample testimony that the ancients possessed a fine and just sentiment for the picturesque position and effect of these monuments, although they practised landscape painting very little, and the illusion of perspective was not much used by them in their compositions. The villa of Pliny, so elegant and so interesting in the description, and which has been considered as a proof of the opinion we have advanced, is viewed by the writer above noticed as not in truth affording any grounds for such an opinion: and he suggests, that if any external irregularity may be considered to have existed, it must have been purely accidental, and only produced in consequence of the necessary arrangement of the interior apartments, and without the least reference to any general or preconceived design.

With regard, however, to the private houses of the ancients in cities, there are but very few instances of much attention being paid to the exterior architectural design; and they were of slight

construction. Those of Pompeii, as well as those designed in the various paintings found on the walls of that city, seem to prove that exterior architecture was not an object, and was generally sacrificed to that of the interior. The habits of domestic privacy of a people which required that the apartments should receive light and air only from an interior court or atrium, and the climate which made such a court desirable on account of its coolness, induced them to lavish the graces and expense of their architecture on the interior rather than the exterior of their houses. Julius Cæsar obtained a special decree to enable him to adorn the front of his house with a pediment: and Gibbon observes, that in the commonwealths of Athens and Rome the modes and simplicity of private houses announced the equal condition of freemen, whilst the sovereignty of the people was represented in the majestic edifices designed to the public use; every part of the empire was fitted with ample theatres, temples, porticoes, triumphal arches, baths, and aqueducts, all variously conducive to the health, the devotion, and the pleasures of the meanest subject.

Gothic Architecture.

In the foregoing observations on the different styles, the Gothic has been omitted. Whatever may be its beauties, and whatever may be the feelings of admiration arising from association, there can be no question that the style is but little adapted to utility; and the expense of producing what might be considered as perfect specimens of this branch of the art, would alone in these days, in a great degree, preclude its revival. The style termed Gothic, (concerning the origin of which we shall not add to the number of discussions,) probably took its rise in the East; this hypothesis has been the most successfully supported by the fact of its appearing nearly at once throughout Christendom, and at a time when all the different states of Europe were attracted to the East by the Crusades; and it seems that the Goths had no share in the invention of the style which now bears their name, it being, in fact, a term of vituperation used by those who had introduced the restored Grecian. In Italy the term had its origin with

the school of Palladio, and in England with Inigo Jones and Wren.*

Roman Architecture.

The zenith of Roman architecture was under the auspices of Vespasian and his immediate successors, who completed the Temple of Peace and the Coliseum: upon the establishment of Christianity, external magnificence was sacrificed to internal decoration; and the oblong square, the ground plan peculiar to ancient temples, simple in the interior but magnificent in the external view, was gradually changed, as will be hereafter noticed, into the Greek and Latin cross, which are less favourable to beauty.

It was not, however, till about the time of Leo X. that architects were encouraged to apply to the antique models, and to measure their proportions, that the orders might be designed with precision. With Bramante, Sangallo, and Michael Angelo, the elegance of the Grecian and the splendour of the Roman architecture was revived, and St. Peter's was commenced. This may be considered as the period of the revival of architecture in Europe. After that, Rome became the grand school for architects; and they in general were content to form their taste, not as the great authors of the revival had, from works of antiquity, but from the new works which were then rising. It was not, however, till the time of Palladio that all the elegance and simplicity of the ancient buildings were rendered applicable to the practical purposes of domestic use.

The different Epochs.

On reviewing the progress of architecture, we find it marked by distinct epochs, which will, perhaps, admit of the following distribution. The *Assyrian*, of which, however, we have no definite knowledge, except its mention in scripture.—The *Egyptian* almost coeval with the Syrian, in which, however, a distinct style was adopted, marked by the building of Thebes, Dendyra, and the other principal monuments of Egypt.—The *Grecian*, (about the 7th to the 3rd century before

Christ,) when the principal temples, including the Parthenon, the temples of Paestum, Ægina, Corinth, &c. were constructed.—The *Roman*, in which the great aqueducts, bridges, and other public works were built, and in which the arch was brought into more efficient use, and gave rise to novel and infinite combinations and improvements in the art of building: the time of Hadrian may be fixed as the best period of this style.—The *first Christian* era, (Justinian,) in which the multiplied dome or cupola first came into general use; and this is important, as it was adopted for two reasons—to accommodate the large Christian congregations, and to distinguish their churches from the heathen temples, which the Iconoclasts held in detestation.—The *Saracenic*, which, without the colossal materials and mechanical means used by the Romans, first gave the idea of raising immense structures by smaller means.—And lastly, the *Cathedral* or second *Christian* era (thirteenth century) is remarkable for the vast sacred edifices which were erected throughout Europe, all partaking of the same general character.

It was during these several eras that the different great improvements were effected. As, in the *Assyrian*, the invention and completion of the brick.—In the *Egyptian*, the working of granite and marbles, and the use of them on an extended scale.—In the *Grecian*, the perfection of the beauty of proportion or fitness supplying the place of vastness and ponderous mass.—In the *Roman*, the arch, forming in fact the basis of the science, and admitting of the extension and adaptation of the principles of architecture to works which the Greeks could not have executed.—In the *first Christian* era, the dome perfected.—And in the *second* or *Gothic*, the pointed arch introduced, by which additional lightness and strength were attained.—These eras were dependent on the great religious changes in the history of Europe; were respectively marked by a different manner of construction; and (though separated by considerable intervals) formed the types for the productions during the intermediate periods.

Of Architecture in England.

The first appearance of the Italian school in England began with Holbein, (Hen. 8.) who was established here under

* This observation does not of course apply to the Saxon or Norman style with the circular instead of the pointed style, which was probably borrowed from the Roman and Byzantine schools, and hence not improperly termed *Romanesque*.

royal patronage, and gained sufficient influence for a partial introduction of the architecture which had begun to revive in Italy. The first house purely Italian is stated, by Mr. Dallaway, to have been built by Sir Horatio Palavicini; and although many magnificent houses were built in the reign of Elizabeth, they had lost all the beauty of the Gothic, without deriving any improvement from the dawning taste for the revived style. The ornaments, both within and without, were cumbrous, and equally void of grace and propriety:—nothing could exceed the heaviness of the cornices and ceilings wrought into compartments, or the awkward intersection of the passages; the hall retained nothing of the Gothic character, excepting its size and large bay window, and instead of battlements and pinnacles, the parapet was broken into numerous high misshapen pediments. Towards the end of the reign of James I. and the beginning of Charles's taste in architecture made a bold step from Italy to England at once, scarcely resting a moment to visit France by the way.

From the most profound ignorance in architecture, Inigo Jones (who had been sent to Italy either by Lord Pembroke or Lord Arundel) started up a prodigy of art, vying in some degree with his master, Palladio. The Banqueting-house at Whitehall, and the Church of St. Paul, Covent Garden, are sufficient proofs of his claim to be considered the founder of this style in England. But the civil wars put a stop to the course so happily begun. Wren, the next genius, arose to kindle afresh the love for that art which had been so long neglected. What had been begun by Jones was fully accomplished by Wren; and the period of our greatest architectural eminence was not far distant.

CHAPTER II.

Wren's Birth, Education, and early Studies.

CHRISTOPHER WREN was born at East Knoyle, in Wiltshire, the rectory of his father, Dr. Christopher Wren, Dean of Windsor, on the 20th day of October, 1632. His father was a learned divine, descended from an ancient English family of Danish origin, and his mother was the daughter and heiress of Robert Cox, of Fonthill, in the county of Wilts.

Dr. Matthew Wren, his uncle, successively Bishop of Hereford, Norwich,

and Ely, was a person eminent in the ecclesiastical history of England; who, having devoted himself to the royal cause, was impeached by order of the House of Commons in 1641, shortly after the impeachment of Archbishop Laud; but he was never brought to trial, though he suffered a protracted imprisonment of nearly twenty years: an injustice not singular in those troublous times. The *Parentalia*, a work we shall afterwards notice, contains a somewhat laboured defence of the bishop, meant to have been used had he been put on his trial. Right or wrong, he adhered firmly and unchangingly to the cause he had espoused, and to the memory of his royal master; and Cromwell, who often met Christopher (the subject of this memoir,) at his son-in-law Claypole's sent a message to the uncle, (by the nephew,) that he might come out of the Tower if he pleased; but the bishop utterly refused, disdaining the terms proposed for his enlargement; which were, as he conceived, a mean acknowledgment of Cromwell's favour and submission to his tyranny; determining, as he expresses it, to tarry the Lord's leisure, and owe his deliverance to him only. Whether Cromwell was informed of the terms with which his offers were rejected, is not known; but if he was, it does not appear to have altered for the worse the situation of the martyr to the cause of Royalty. The bishop, however, was mainly tainted with the feelings of the times: he was conspicuous for his cruel persecution of the dissenters within his diocese; and he is represented as proceeding passionately against the Walloon manufacturers, who in the time of Edward VI. transplanted themselves into England and had their privileges enlarged, and were much encouraged by Elizabeth. He also makes a conspicuous figure in the virulent party squib, called "A nest of perfidious vipers in the parliament of black saints." From this it may be inferred, that his zeal for his own party carried him beyond reason, and exposed him to the severe animadversions of his enemies.—He had four sons, all of whom were eminent in their day; one being, at the Restoration, Secretary to Lord Clarendon, and afterwards to James, Duke of York; one was knighted, and the other two returned to Parliament.

Dr. Wren, the father of Sir Chris-

topher, was educated at Merchant Tailors' School; he became a fellow of St. John's, Oxford, Chaplain in Ordinary to Charles I., and was ultimately installed Dean of Windsor, and made Registrar of the Order of the Garter. His tastes and his habits led him to associate with all the learned of the age; and he possessed himself considerable attainments both in science and literature: he had turned his attention to the cultivation of that art, in the pursuit of which his son was afterwards to become so eminent; and it appears, from an estimate made by him, and preserved in the State Papers, that he had been employed by the court respecting a building to be erected for the Queen of Charles I.

Wren was one of those whose future eminence was early foreseen; and whose ripper years redeemed the promise of youth. Like his great contemporary Pascal, his genius early displayed itself. But though alike in talents, their fates were dissimilar. The genius and acquirements of Wren laid the groundwork of his happiness through a long series of years, whilst in Pascal the acuteness of his intellect, and his acquirements, seem but to have aggravated his misery, and to have hurried him to an early grave. At the age of thirteen an invention by Wren of some new astronomical instrument is recorded, the account of which is dedicated by him to his father, in a Latin epistle. This essay was followed by others of the same kind. His infancy and youth were marked by a peculiarly delicate state of health; he received his early education at home under his father, and at the age of fourteen was sent to Wadham college, Oxford, where notwithstanding his youth, his attainments procured him the friendship and patronage of the most eminent persons, amongst whom were the ingenious Bishop Wilkins, and the celebrated Oughtred, who in the preface to his *Clavis Mathematica* mentions Wren as having attained, at the age of sixteen, such a knowledge in mathematics and other branches of natural philosophy, as gave promise of future eminence.—Wilkins also introduced him to Prince Charles, Elector Palatine, as a prodigy.

As early as the year 1645, Dr. Willis, an eminent mathematician, formed a sort of club of scientific persons, chiefly those connected with Gresham college, who met weekly; amongst them was Wren. Their object was the discussion

of all subjects relating to philosophical inquiries, and from these meetings originated that body of eminent persons called the Royal Society, who by their pursuits contributed so mainly to the advancement of science. In 1648, Dr. Wilkins and several other leading members retired to Oxford, where they continued their weekly meetings, and thus set a fashion for the study of the useful sciences in that university. Amongst those distinguished persons were Sir W. Petty, the ancestor of the Lansdowne family, and Robert Boyle.

One of Wren's early inventions in the arts was a sort of *penna duplex*, for which he obtained a patent, and which gave rise to some controversy between Sir William Petty and himself; the former having taken out a patent for a similar invention on his return from France in the same year. Wren, more fortunate than his father and uncle, though he lived in troubled times, when the conflicting parties were exhausting themselves in acts of violence, pursued his course straight to the object of his ambition, in the study of those sciences which he was afterwards to adorn.

He is said to have been the first who turned his attention to the representation of subjects as shown in a microscope, and in which he was mainly assisted by Hooke; and Harrington, the author of the *Oceana*, alludes to these tastes, and also to the politics of the family, in some observations on a cousin of Wren's, whom he designates as being one of those *virtuosi*, "who had an excellent faculty for magnifying a louse and diminishing a commonwealth." Shortly after this he produced a Theory of the Planet Saturn, an Algebraic Treatise on the Julian Period, a tract much esteemed, it is said, by the most learned mathematicians of his day. In 1653 he was elected Fellow of his college, and soon proceeded to London, continuing to cultivate the sciences. One of the most important inventions of this period was the barometer; and to this some laid claim on behalf of Wren; but the discovery was, without doubt, the property of Torricelli, though it is supposed Wren was the first in England who suggested that the various weight of the atmosphere was the true cause of the variations in the height of the mercury, which the followers of Des Cartes had ascribed to the influence of the moon. Evelyn (himself a man of sense

and an ardent lover of learning, who studied all that was useful to his country, and was associated with the most eminent of his time) could not but often come in contact with Wren; and accordingly, in his amusing journal, he frequently bears testimony to his early excellence, calling him "that prodigious young scholar," "that miracle of youth," "rare and early prodigy of science."

Whilst Wren was devoted to the pursuits of science, the times were distracted by the fury of party. The objects of the early association of eminent persons at Oxford is thus described by Spratt, Bishop of Rochester, in his *History of the Royal Society*: "Their first purpose was no more than only the satisfaction of breathing a fresher air, and of conversing in quiet one with another, without being engaged in the passions and madness of that dismal age. And from the institution of that assembly it had been enough, if no other advantage had come but this, that by this means there was a race of young men provided against the next age, whose minds, receiving from them their first impressions of sober and generous knowledge, were invincibly armed against all the enchantments of enthusiasm. But what is more, I may venture to affirm, that it was in good measure by the influence which these gentlemen had over the rest, that the university itself, or at least any part of its discipline and order, was saved from ruin."

"Nor were the good effects of this conversation only confined to Oxford, but they have made themselves known by their printed works, both in our own and in the learned languages, which have much conduced to the fame of our nation *abroad*, and to the spreading profitable light at *home*."

It was not until the age of Wren that the inductive process of Bacon was duly understood and appreciated. This period, on the eve of Newton's great discoveries, was perhaps the most important that has yet occurred in the annals of science. The spirit of inquiry, at first feeble, which actuated some individuals at the time of the revival of learning, had from numerous causes gathered strength, and spread itself over Europe. Bacon had turned his powerful and creative mind to the state of human knowledge, marking its imperfections and planning its improvements, amending the vagueness and

uncertainty of physical speculations, and supplying the want of connection between the sciences and the arts. This and the illustration of Bacon's method by Galileo and his contemporaries, (amongst whom Wren was eminent,) first led the way to the general adoption of the new philosophy—reasoning gradually from particulars to those that were only one step more general; not as formerly, adopting general positions drawn suddenly from particular instances hastily assumed. It was now felt that facts and not opinions were the things to reason about, in order to arrive at the knowledge of the laws governing the material world; and Bacon himself had foreseen the formation of a society directed to scientific improvement, and has given a general outline of it in the *Nova Atlantis*. And it was now that the enthusiastic ardour in the pursuit of natural philosophy was awakened in the minds of literary men, and which has ever since remained undiminished. None of the members of these meetings were more conspicuous than Wren, who, together with Boyle, (the great improver of the air-pump,) had imbibed the true spirit of Bacon. They applied themselves to the prosecution of experimental science, being the avowed enemies of the philosophy of Aristotle; following up the true principles of the new philosophy by preparing a history of the phenomena of nature in all their modifications and varieties; and instituting every form of experiment for the sake of discovery. Wren was one of the first (in conjunction with Wallis, Huygens, Newton, Leibnitz, and the Bernouillis) to occupy himself with the investigation of the cycloid, which had been discovered by Pascal; and he constantly urged, in his communications to the Royal Society, the importance of experiments and observations on facts. "For the improvement of theories," he observes, "we need be least solicitous; it is a work which will insensibly grow on us if we be always doing something in experiment; and every one is more prone to exercise his fancy in building paper theories than patient first to pile the unsure foundation, and hew solid materials out of the history of nature: this is rather our task, and in many things we must be content to plant crab stocks for posterity to graft on; and instead of the vanity of prognosti-

cating, I could wish we would have the patience for some years of registering past times, which is the certain way of learning to prognosticate; experiment and reason is the only way of prophesying natural events; in combating prejudices, detecting error, and establishing truth."

This great era in the progress of useful knowledge was destined to conclude with the most splendid series of philosophical improvements yet recorded—the discovery by Newton, in succession, of fluxions, the composition of light, and the principle of universal gravitation, all within twenty years, and all the work of one individual!

During his residence at Oxford, Wren in anatomical science stood amongst the first professors of his day, and as early as the age of fifteen he was employed by Sir Charles Scarborough, an eminent physician and mathematician, as a demonstrating assistant. His abilities as a demonstrator, and his attainments in anatomy generally, are acknowledged by Dr. Willis, in his *Treatise on the Brain*, for which he made all the drawings; and he is allowed to have been the originator of the physiological experiment of injecting various liquors into the veins of living animals, which Bishop Spratt calls a "noble experiment," exhibited at the meetings at Oxford. A notice of it was sent into Germany, and published abroad, as is supposed by the treachery of Oldenburgh, a person connected with the men of science of that day; and who is believed often to have secretly communicated to the continental philosophers the discoveries which came to his knowledge, thus giving rise to numberless disputes and claims to priority of invention among the learned of that time.

This experiment is alluded to by Sir Christopher Wren himself, in a letter to a friend in Ireland, (conceived by Mr. Elmes to be Sir William Petty:) "The most considerable experiment I have made of late is this: I injected wine and ale into the mass of blood in a living dog, by a vein, in good quantities, till he became extremely drunk; but soon after voided it by urine. It will be too long to tell you the effects of opium, scammony, and other things which I have tried in this way. I am in further pursuit of the experiment, which I take to be of great concernment, and what will give great light to the

theory and practice of physio." The French, however, laid claim to the discovery; but we shall not here enter into the controversy; the genius and the acknowledged and undisputed works of Wren enable him beyond all others to abandon his claim when it is contested.

CHAPTER III.

Wren's pursuits to the Building of St. Paul's.

WREN, in his twenty-fifth year, left his retirement at Oxford for the more extended field of the metropolis; being chosen, in 1657, to fill the Professor's chair of Astronomy at Gresham college. His inaugural Oration in Latin is published in Ward's *Lives of the Gresham Professors*, and its first sketch in English is to be found in the *Parentalia*; it is curious, as showing the care and labour which he thought it necessary to bestow on the work. This Oration at once established his reputation, and his Lectures were attended by the most eminent and learned persons of the time. The greater part of the Oxford Society, who afterwards were the leading members of the Royal Society, coming to London about 1658, usually assembled to hear Wren's Wednesday Lectures, in his Lecture room, and on Tuesday those upon, Geometry, by Rooke.

In his inaugural discourse, amongst other things, he proposed several methods by which to account for the shadows returning backwards ten degrees on the dial of King Ahaz, by the laws of nature. One subject of discussion was the Telescope, to the improvement of which he had greatly contributed. Another head comprised certain properties of the air and the barometer.

In 1658 Wren acquired fresh fame as a mathematician, by the solution of the celebrated problem of Pascal; which had been given out, under the assumed name of Jean de Mountfort, as a challenge to the learned of England; and, in return, he proposed another, for the solution of the mathematicians of France, which had formerly been proposed by Kepler, and solved by himself geometrically. The challenge, however, was never answered. In the same year he communicated four mathematical tracts to Dr. Wallis, the Savilian Professor at Oxford, which were published by the doctor in his *Treatise on the Cycloid*.

His method for the rectification of the cycloid was also produced by him this year; and he made a series of observations on the phases of the Planet Saturn, the results of which he disclosed in his Gresham Lectures.

His pursuits were alien to the fury of party or the politics of the day, and to this, and his connection with Claypole, it is probable he owed his escape from that persecution to which the other members of his family were exposed. The members of the Club, on the death of Cromwell, were scattered by the distractions which ensued, and the College itself became a quarter for soldiers.

Wren, who had fled from London to Oxford during the confusion, received the following letters from the Bishop of Rochester and his cousin; and as they are curious we shall give them at length.

Dear Sir,

This day I went to visit Gresham College, but found the place in such a nasty condition, so defiled, and the smell so infernal, that if you should come now to make use of your tube, it would be like Dives looking out of hell into heaven. Dr. Goddard, of all your colleagues, keeps possession, which he could never be able to do, had he not before prepared his nose for camp perfumes, by his voyage into Scotland, and had he not such excellent restoratives in his cellars. The soldiers by the violence which they put on the Muses' seats, have made themselves odious to all the ingenious world; and if we pass by their having undone the nation, this crime we shall never be able to forgive them; and as for what concerns you, they have now proved, that their pretensions to religion were all feigned, since by hindering your Lectures they have committed so manifest a sin against Heaven. Yet your many friends here hope you will hereafter recompense this unhappy leisure which is afforded you, by making those admirable discourses which you had intended for this place more public; and that you will imitate Cicero, who, being hindered pronouncing his Oration *pro Milone*, by the guards of Pompey's soldiers that encompassed his chair, set it forth afterwards more perfect than the rest.

His cousin Matthew, eldest son of Matthew, Bishop of Ely, also wrote to him from London at the same time, and on the same account, the following letter, which admirably depicts his own feelings and the state of the capital.

Dear Cousin,

Yesterday being the first of the term, I resolved to make an experiment, whether Dr. Horton entertained the new auditory of Gresham with any Lecture; for I took it for granted, that if his divinity could be spared, your mathematics would not be expected. But at the gate I was stopped by a man with a gun, who told me there was no admission on that account, the college being reformed into a garrison. Then, changing my pretension, I scarce got permission to go into Dr. Goddard, who gave me assurance enough, that none of your colleagues intended to appear this term, unless the soldiers be removed, of which there is no probability. Upon these premises, it is the conclusion of all your friends, that you may save that journey hither, unless some other occasion calls you; and for these

I expect you will make me your agent, if they be such as I am capable of despatching. But it will not be amiss to take from hence the occasion of a short and civil letter to the Committee, signifying that you hope you have not deceived their expectations in choosing you, and that you are ready to attend to your duty but for this public interruption and exclusion from your chamber; or what else you will that looks towards this. I know no more domestic news, than what every body talks of. Yesterday I was in Westminster-Hall, and saw only Kendigate and Windham in the two courts, and Wild and Parker in the Exchequer; in the chancery none at all; for Bradshaw keeps the Seal as if it were to be carried before him in the other world, whither he is going. Glyn and Fountain pleaded at the bar. They talk much of the mediation of the two crowns, and proceed so far as to name Marshall Clerambault for the Ambassador, who is come hither from France.—My service to all my friends.

Soon after the return of Charles II., Wren was chosen to fill the Savilian professor's chair at Oxford, then one of the highest distinctions which could be conferred on a scientific person. The Restoration, which began with such favourable auspices, was mainly conducive to the foundation of the Royal Society, in which Cowley, the poet, bore a principal part; planning a society which should have the disposal of considerable funds, for the encouragement of knowledge, and not forgetting the important work of the instruction of youth. The object of the society cannot be better expressed than in the words of Spratt, its earliest and eloquent historian.

"The purpose of its founders was to make faithful records of all the works of nature and art which can come within their reach; so that the present age and posterity may be able to put a mark on the errors which have been strengthened by long prescription; to restore the truths that have lain neglected; to push on those that are already known to more various uses; to make the way more passable to what remains unrevealed. This is the compass of their design. And to accomplish this, they have endeavoured to separate the knowledge of nature from the colours of rhetoric, the devices of fancy, or the delightful deceit of fables. They have laboured," continues this learned prelate, "to enlarge it, from being confined to the custody of a few, or from servitude to private interests. They have striven to preserve it from being overpressed by a confused heap of vain and useless particulars; or from being straitened and bounded up too much by general doctrines. They have tried to put it into a condition of perpetually increasing, by settling an inviolable correspondence

between the hand and the brain. They have studied to make it not only an enterprise of one season, or of some lucky opportunity; but a business of time, a steady, a lasting, a popular, an uninterrupted work. They have attempted to free it from the artifice and humour and passions of sects; to render it an instrument whereby mankind may obtain a dominion of things, and not only over one another's judgments. And, lastly, they have begun to establish these reformations in philosophy, not so much by any solemnity of laws, or ostentation of ceremonies, as by *solid practice and examples*; not a glorious pomp of words, but by the silent, effectual, and unanswerable arguments of real productions. As for what belongs to the members themselves that are to constitute the society, it is to be noted, that they have freely admitted men of different religions, countries, and professions of life. This they were obliged to do, or else they would come far short of the largeness of their own declarations. For they openly profess, not to lay the foundation of an English, Scotch, Irish, Popish, or Protestant philosophy, but a *philosophy of mankind*."

We have been thus minute in setting forth the origin of the Royal Society, as being one of the most important institutions of the country, founded on the purest and the best principles for the attainment of its great object.

It may be permitted here to remark, that this society (so long eminent in Europe) has, in a great measure, become more aristocratic than formerly in the selection of its members; for, in Charles's time, on an intelligent citizen of London being proposed at the recommendation of the king, he told them, *if they found any more such tradesmen they should be sure to admit them all*.

Wren about this time discovered a method for the calculation of solar eclipses, which was published by Flamsteed in his doctrine of the sphere, and which was followed for many years as the most concise and plain. The Annals of the Royal Society also bear the amplest testimony to his knowledge and industry, in his commentaries on almost every subject connected with the abstruse sciences and the arts of life; and, in conjunction with Boyle, Hooke, and Wilkins, he originated many of the most important experiments of the day.

Amongst his communications was a History of the Seasons, as to temperature, weather, productions, diseases. For illustrating this subject he devised many curious machines, several of which kept their own registers, tracing out the lines of variation so that a person might know what changes the weather had undergone during his absence; and these contrivances he applied to wind-gages, thermometers, barometers, hygrometers.

He made great additions to the recent discoveries on pendulums; and referred to what has been since perfected, the making the pendulum a natural standard for measure.

He also originated many ways of making astronomical observations easy and accurate; and added much to the theory of dioptrics. He made constant observations on Saturn, and gave a true theory of that planet, before the printed discourse on the subject by Huygens appeared. He made maps of the Pleiades and other stars; and proposed methods to determine the great question as to the earth's motion or rest, by the small stars about the pole, to be seen in large telescopes. And he effected many improvements in the theory of navigation.*

Amongst his discoveries in the arts there appears great ground to suppose, that it was he and not Prince Rupert who first invented the art of engraving in Mezzotinto, though it was subsequently much advanced by the Prince; who did not, however, bear any ill-will towards his rival; for it appears from the *Parentalia*, that Wren was enrolled in the list of his especial friends, to whom that distinguished personage sent a yearly present of his choicest wine, from his vineyard on the Rhine.

He also, from the years 1660 to 1720, employed himself in a series of papers on the longitude. To enter into a detail of all the studies and discoveries of Wren would, in fact, be to give the whole history of natural philosophy in his age. Many of his inventions are lost; for it will be observed, that he himself printed nothing: many were secretly sent abroad, and appropriated by others not unwilling to appear in borrowed feathers. Wren himself observes, in one of his letters, "I must confess I have often had the pusillanimity rather to neglect that right I ought

* Hutton, *Mathemat. Dict.* &c.

in justice to have vindicated, than, by challenging it too late, incur the jealousy of being a plagiarist."

Whilst at Oxford he was employed by the king to make drawings of the animalcula seen by a microscope, as we have before noticed; and a model of the lunar globe as seen by the best telescope of the times, was constructed by him, representing the spots and various degrees of whiteness on the moon's surface, with the hills, eminences, and cavities; the whole contrived so that by turning it round to the light it showed all the lunar phases, with the various appearances that arise from the shadows of the mountains and valleys. This was afterwards placed in the king's cabinet.

Nor were the Muses neglected by Wren; his pursuits in this kind are alluded to by his correspondent the Bishop of Rochester, who compliments him on some translations of Horace, observing: "You have admirably well hit his genius, your verse is harmonious, your philosophy very instructive for life, your liberty in translating enough to make it seem to be an English original, and yet not so much but that the mind of the author is still religiously observed." Not much faith is to be given to the encomiums of friends in literary confidences, but from this it may fairly be inferred, that Wren must have at least surpassed mediocrity.

In 1662 his *Prelectiones Astronomicæ* were published at the Oxford press. Dr. Isaac Barrow, who succeeded Rooke as professor of geometry at Gresham College, in his inaugural address, pronounces a very elegant encomium upon the merits of Wren, into which he enters largely; describing him as being one of the earliest promise, and the fullest performance, of any genius of his time.

In 1675, the Bishop of Rochester dedicated to Wren his observations on Mons. de Sorbier's *Voyage to England*; and Hooke, in the preface to his *Micrographia*, states, that although he was at first induced to undertake the work at the suggestion of Bishop Wilkins, yet he commenced it with reluctance, because he had to follow the footsteps of so eminent a person as Dr. Wren, who was the first that attempted anything of this nature, and whose original draughts make one of the ornaments of the great collection of rarities in the king's closet;

adding, "I must affirm of him, that since the time of Archimedes there scarce ever met in one man so great a perfection, such a mechanical head, and so philosophical a mind."—He is also noticed with great honour by Newton in his *Principia*, in conjunction with Wallis and Huygens, as among the first mathematicians of the age.

Perhaps the whole history of literary and scientific men does not afford an example of one held in more high and general estimation than this highly gifted individual. His contemporaries appear willing and eager to testify both their admiration of his genius, and their esteem for that unreservedness and candour which prevailed throughout his intercourse with his associates. The history of his career is stained by none of those bickerings, those paltry struggles for priority or fame, so frequent in the lives of others of his time, who were as conspicuous for the weakness of their feelings as for the greatness of their minds. None of their bad passions appear ever to have darkened Wren's thoughts, or disturbed the even tenour of his course, directed as it was to the advancement of his favourite art, and the attainment of all that was useful in science. Neither could he be said to be afflicted with the credulity or vain pretensions which marked many of those who lived in the same age.

In 1665 he went to Paris, for the purpose of studying all the principal buildings, and the various inventions in the different branches of mechanics. From thence he intended to pass on into Italy, for the purpose of studying Vitruvius amidst the great remains of antiquity. While at Paris the Louvre was in progress, 1000 hands being daily employed on the works: some in laying its mighty foundations; some in raising the different columns and entablatures, composed of vast stones, by great and useful engines; others in carving, inlaying marbles, plastering, painting, gilding, which altogether formed, in the opinion of Wren, a school of architecture the best at that day in Europe. It was here he saw those great masters of the art, Bernini and Mansard. His few observations on the buildings of France have a peculiar relish and interest. "Fontainebleau (he remarks in one of his letters) has a stately wildness, and vastness, suitable to the desert in which it stands; the antique mass of the

Castle of St. Germain's, and the hanging gardens are delightfully surprising, (I mean to any man of judgment,) for the pleasures below vanish away in the breath that is spent in ascending.—The Palace, or if you please to call it, the Cabinet of Versailles, called me twice to see it; the mixture of brick and stone, blue tile and gold, make it look like a rich livery. Not an inch within but is crowded with little curiosities of ornament. The women, as they make here the language and the fashions, and meddle with politics and philosophy, so they sway also in architecture; works of filigree, and little trinkets, are in great vogue, but building ought certainly to have the attribute of *eternal*, and therefore to be the only thing incapable of new fashions.”*

After enumerating many other buildings, he adds, “all of which I have surveyed, and that I might not lose the impression of them I shall bring you almost all France on paper, which I have found by some or other ready designed, and on which I have spent both labour and some money. Bernini's design of the Louvre I would have given my skin for; but the old reserved Italian gave me but a few minutes' view. It was a fine little draught on five pieces of paper, for which he had received as many thousand pistoles. I had only time to copy it out by fancy and memory, and I shall be able, by discourse and a crayon, to give you a tolerable account of it.” In one of his letters he notices having on the anvil, “Observations on the present state of architecture, arts, and manufactures in France,” which, however, unfortunately were never completed.

Wren returned in the beginning of 1666, and it does not appear that he carried into execution his project of visiting Italy.

Soon after the restoration, Charles II. contemplated the repair of the Cathedral of St. Paul's, which had become

dilapidated during the commonwealth; its revenues having been confiscated, and the choir converted into horse barracks by Cromwell. In 1660 a commission was issued (in which Wren was named) to superintend the restoration. He was long employed in considering the best mode of effecting this. The cathedral had been partly repaired by Inigo Jones, by the addition of a beautiful Corinthian portico at the west end, not however in character with the style of the building. Wren proposed to rebuild the steeple with a cupola; a form of Church building, Evelyn observes, not then known in England, but which was of wonderful grace. This project was at once defeated by the desolating fire of 1666, which, destroying the greater part of the city, so injured the cathedral as to make its restoration impossible; and to this the scaffolding, which had been put up for the repairs, mainly contributed.

Evelyn alludes to the attempt to repair St. Paul's, in his dedication to Wren of his *Account of Architects and Architecture*. “I have named St. Paul's, and truly not without admiration as oft as I recall to mind, as I frequently do, the sad and deplorable condition it was in: when, after it had been made a stable for horses, and a den of thieves, you, with other gentlemen and myself were by the late King Charles named to survey the dilapidations, and made report to His Majesty in order to a speedy reparation; you will not, as I am sure, forget the struggle we had with some who were for patching it up any how, so the steeple might stand instead of new building; when, to put an end to the contest, five days after, that dreadful conflagration happened, out of whose ashes this phoenix is arisen, and was by providence designed for you.”

That which produced so much individual misery, afforded (as Sir Richard Steele observes) the greatest occasion that ever builder had to render his name immortal, and his person venerable. A whole city at once laid waste was an opportunity for the display of inventive genius, which had never before been given to any architect; but the selfishness of individuals, their disputes, and intrigues, and conflicting interests, prevented Wren from carrying his great design for the restoration of the metropolis into effect. And though many of the narrow lanes and confined spaces of

* Never, perhaps, was so complete a failure as the mass of incongruities at Versailles, and never such a profuse squandering of treasure and even of life. Dulaure, in his “History of Paris,” states the expenses (including the moving of hills, and the various other projects) at the incredible sum of forty-eight millions sterling; from twenty-two to thirty-six thousand labourers were constantly employed on the works. A camp was formed for the workmen near the spot, the limits of which were strictly guarded; and it was criminal even to notice the vast waste of life in the soldiers employed, 10,000 of whom are said to have fallen victims to excess of fatigue, and to an epidemic disease caused by the exhalations from the swampy ground.

the old city were removed, still none of his views were adopted. As soon as the fire was subdued, whilst the ashes were yet alive, he was on the ground, considering his plan for the restoration of the city. He proposed one main street from Aldgate to Temple Bar, in the middle of which was to have been a large square capable of containing the new church of St. Paul, with a proper distance for the view all round; the parish churches were to be rebuilt so as to be seen at the end of every vista of houses, and dispersed at sufficient distances from each other; four piazzas were designed at proper distances; and lastly, the houses were to be uniform, surrounded by arcades, like those in Covent Garden; while by the water-side a large quay was to run, along which were to be ranged the halls belonging to the several companies, with warehouses and other appropriate mercantile buildings. If such a plan (modified in some degree) had been effected, London, it must be confessed, would have far exceeded every capital in the world. It may, however, be doubted, whether the climate of this country is suited to covered arcades; and with respect to the complete regularity and uniformity of the streets, although in theory this is captivating, in execution its effect is dull and disappointing. The total want of interest and variety in those towns where it has been adopted, such as Carlsruhe, Darmstadt, and Manheim, to which we may add the New Town of Edinburgh, affords sufficient evidence in support of this position.

London experienced an unexampled series of calamities. First harassed by the civil war; next desolated by the plague; after this oppressed by the exactions of the unsuccessful war of Charles; and last ravaged by the dreadful fire, which laid the whole city in ashes. But with all this, the courage and the spirit of the people were not borne down; and with one heart and one mind, in the very reeking ruins, the restoration of the city, with increased grandeur, was undertaken. It is difficult to refrain from entering at length into the details of this dreadful calamity, particularly when there are such materials as the lively pen of Evelyn (an eye-witness) affords; but it is impossible not to note the magnanimity of the people, as described by the Bishop of Rochester, a writer

far too courtly to attribute any very exaggerated merit to the humbler classes of society. He describes them "as enduring this, the second calamity, with undaunted firmness of mind; their example," he says, "may incline us to believe that not only the best natural, but the best moral philosophy too, may be learned from the shops of mechanics. It was indeed admirable to behold with what constancy the meanest artificers saw all the labour of their lives, and the support of their families, devoured in an instant. They beheld the ashes of their houses, and gates, and temples, without the least expression of pusillanimity. If philosophers had done this, it had well become their profession of wisdom; if gentlemen, the nobleness of their breeding and blood would have required it; but that such greatness of heart should be found amongst the *poor artisans and the obscure multitude* is, no doubt, one of the most honourable events which ever happened." —The Bishop's habits and prejudices led him to be surprised at finding greatness and forbearance amongst the lower orders of a free and independent people. If he had not learnt better from history, the subsequent struggles of those very persons, under the still greater calamities induced by the oppression of the Stuarts, would have afforded him new ground for admiration.

Charles, during his residence abroad, had imbibed a taste for the arts, particularly for architecture, and amidst his sensualities and misgovernment was not unmindful of their advancement. Upon his deciding to repair St. Paul's, to reinstate Windsor Castle, and to build a new palace at Greenwich, Wren (who to his other attainments added a considerable knowledge of architecture) was sent for from Oxford in 1661, to assist Sir John Denham, the new surveyor general. In the same year he took the degree of doctor of laws.

Denham was a partisan of the court in the troublesome times of Charles I., and was rewarded by his master with a grant in reversion of the place of Surveyor General of the Board of Works, to take effect on the death of Inigo Jones. As a poet and as a loyalist his merits are admitted; but his reward might have been more judiciously selected, for he was entirely ignorant of architecture. "It would have been ungrateful in the

king, on his restoration," observes Mr. Elmes, with great simplicity, "to have discharged Denham, and unsafe to have intrusted him with the execution of any great work." Few men, it must be admitted, could so ill afford to add to the list of their acts of ingratitude towards their followers and dependants as Charles: Denham remained surveyor with the salary, Wren was appointed his deputy,—and performed all the duties of the office. Although appointed, he held the place for some time before he received any important public employment; and the Infanta of Portugal having brought the expensive dowry of Tangier, it was proposed to Wren, on account of his knowledge in geometry, to proceed there to survey and direct the works at the mole, harbour, and fortifications: this, however, he wisely declined.

During his progress in making plans for the repair of the Cathedral, the state and condition of which he appears very minutely to have ascertained, he was employed to give a design for the erection of the new theatre (Sheldonian) at Oxford, the principal merit of which is in the scientific construction of the flat roof, which is 80 by 70 feet without any arched work or pillars to support it, and is said never to have been surpassed. Plott, who in his history of Oxford has given a detailed description of it, calls Wren the English Vitruvius. Cambridge also was not slow to require his services, and his first commission was for a design for the new chapel of Pembroke Hall, of which his uncle had been a liberal benefactor. The celebrated library of Trinity College was also one of his early works.

CHAPTER IV.

On the form of the early Churches.

Before we enter on the subject of the erection of St. Paul's, confessedly the second of the cathedral edifices in Europe, it will not, we conceive, be out of place shortly to trace the origin of the present form of Christian Churches from the simple plans of the Temples of antiquity. Those of the Egyptians and Greeks were in the figure of a parallelogram again divided into squares or other parallelograms; and it probably was not till the Pantheon at Rome was erected, that the Grecian Tholos or circular temple was

attempted on so great a scale. The religious rites of the Greeks and Romans were all performed in the open air, either in the front of their temples, or in the midst of the city; the early Christians, on the contrary, persecuted on all sides, sought refuge in caverns and catacombs hid from the light of day, for the solemnization of the rites of their religion, until encouraged and protected by Constantine they first began to assemble openly in congregations, and to worship without fear.

The largest of the ancient enclosed buildings were the halls of Justice called *Basilicæ*, or Royal Houses; it is supposed by some, that these were first appropriated by Constantine to the use of the Christian congregations, and being closed on all sides protected them from the fanaticism of their persecutors. The early Christian Churches were constructed on the model of these, and, up to the present period, have in some examples retained their name. The original form of an ancient temple was an oblong *cella*, or chamber surrounded with porticoes, or where the side porticoes were omitted there was always one in the front; but in the basilica the porticoes were internal, there being no exterior portico or colonnade; and the interior was divided by rows of columns either into three or five divisions. (*Fig. 1. and 2.*) In the centre

Fig. 1.

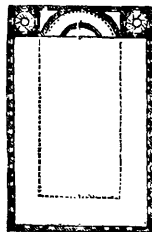
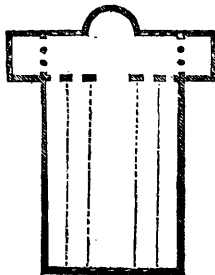


Fig. 2.



division (*fig. 1.*) the judge administered the law; and the side aisles, or porticoes, were occupied by the merchants and traders.

The first Christian Basilicas are referred to Constantine, and about the year 324 he erected the grand one of St. Peter's. It was divided into five aisles, running from east to west, and was terminated at the end by another aisle, or transept, from north to south, in the centre of which was a large semicircular niche, giving to the building an imperfect form of a cross, which he especially directed, as a memorial of that miraculous one which he had witnessed before his victory over Maxentius. The large aisle was enclosed by forty-eight columns of precious marble, and the side aisles had forty-eight columns of smaller dimensions: the whole was covered with a flat ceiling composed of immense beams cased with gilt metal, and Corinthian brass taken from the temples of Romulus and Jupiter Capitolinus. A hundred smaller columns ornamented the shrines and chapels; the walls were covered with paintings of religious subjects; and the tribunal, or niche at the end, was enriched with elaborate Mosaics or inlaid marbles. A vast number of lamps illuminated the temple; in the greater solemnities 2400 were reckoned, and 1360 of these were contained in an enormous candelabrum. It was on the site of this magnificent temple, which, falling into ruins, was pulled down by Julius II., that the present Basilica of St. Peter's was erected. In this sort of building the intersection of the aisles and the transept produced a centre which it was natural to enlarge and make the principal in the composition; this and the form of the Cross (the emblem of Christianity) were the cause of the deviations from the ancient form of the Basilica; and the invention of domes supported on pendentives added a size and dignity to the centre, without interrupting the vista of the aisles.

The disposition of the ancient St. Peter's at Rome was followed by Constantine in the church which he erected in his new capital of Constantinople. This being destroyed, Justinian employed Anthemius and Isidorus to erect a magnificent temple that should immortalize his name, and in this they first ventured on the novel construction of adding a dome, remarkable for its diameter and flatness, over the centre. The

plan of this Basilica is a square of about two hundred and fifty feet; the interior forms a Greek cross, *i. e.* one with equal arms: the aisles are terminated at two ends by semicircles, and at the other two by square recesses: the aisles are vaulted, and the centre (where the aisles and transept intersect) forms the large square on which is raised the dome, of about one hundred and ten feet in diameter. The dome is supported on the four arches and the pendentives, or spandrels, which connect the square plan of the arches, and gradually form a circle at the level of their summit.

In consequence of the true principles of this mode of building not being discovered, the architects fell into many difficulties, and it was only after experiencing several failures, among them the falling of half the dome, and adding strong buttresses, that they were enabled to accomplish the glory of this magnificent design. These difficulties were, however, obviated in the building of St. Peter's, as in the dome and cone of St. Paul's, by adopting a much larger segment of a circle, and by inserting strong chains in the stone work at the base of the dome immediately over the arches, so as to give the lateral pressure a perpendicular bearing.

On the revival of the arts, this Basilica, the most magnificent and the last of the Lower Empire, was that which most influenced the form and character of the new temples. The Venetians in the tenth century copied with success the best parts of the disposition of Santa Sophia in the church of St. Mark, (now destroyed;) and it was probably the first of any extent which in Italy was constructed with a dome supported on pendentives or spandrels, and which gave the idea imitated in St. Peter's, of accompanying the great dome of a church with smaller and lower domes, to give a pyramidal effect to the whole. The church of Santa Maria del Fiore at Florence, from the magnitude of its dome, and the skill which Brunelleschi displayed in its construction,* acquired a celebrity that made the system of domes prevalent, till it was finally established in the church of St. Peter's, the grand type of all others. It was in the beginning of the sixteenth century that Bramante formed the magnificent design of suspending over the centre of the Basilica a circular temple

* See *Vasari's Life of Brunelleschi*.

as large as the Pantheon;—raising, as he expressed it, the Pantheon on the Temple of Peace; and in the completion of this great work, Michael Angelo was occupied till his death.

CHAPTER V.

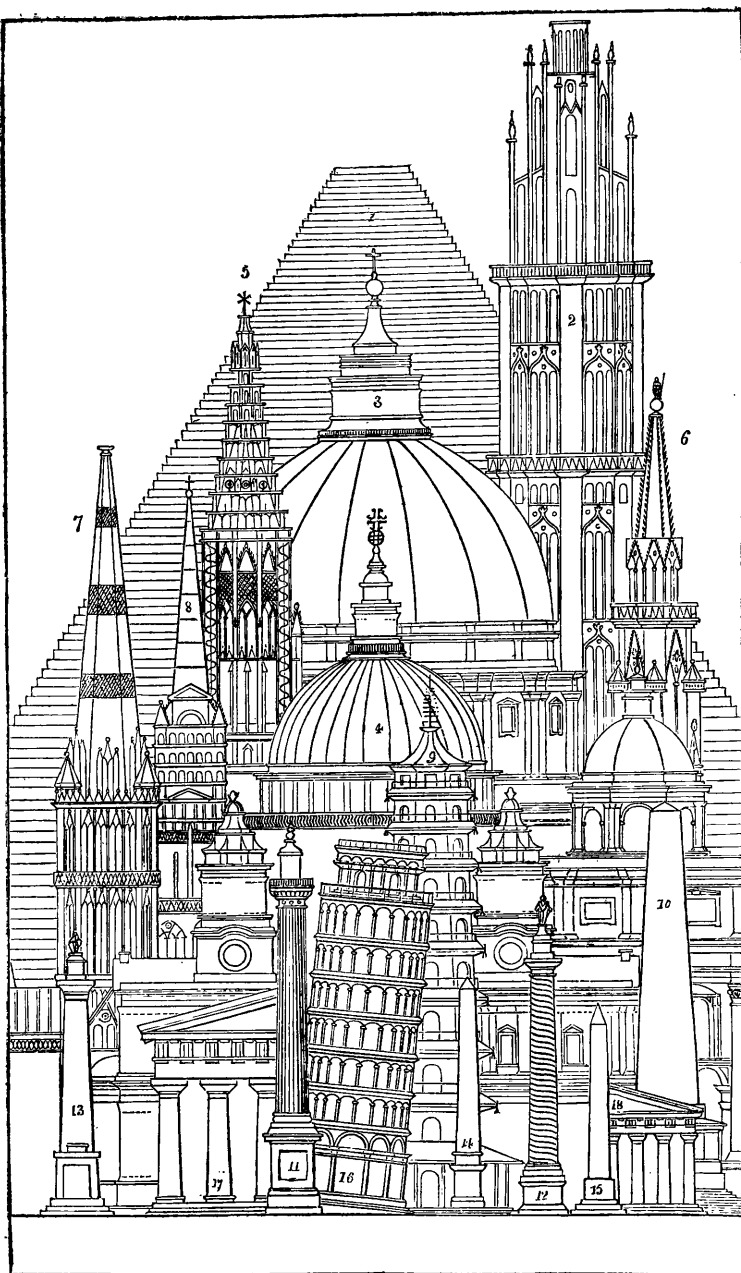
St. Paul's.

AFTER the nomination of the commission for the building St. Paul's, much discussion arose as to the plan. Wren's first design was to have but one order instead of two, and without any side oratories or aisles, these being only necessary for the ceremonies of the church of Rome: and this noble design appears in the beautiful model made by Wren, and kept in the present cathedral. The side aisles, however, were added either because their omission was considered too great a departure from the usual form of cathedrals, or (as is supposed by Mr. Spence in his anecdotes) because the suggestion of the Duke of York (James II.) was followed, and he was willing to have them ready for the Roman catholic service as soon as an occasion should arise. The addition of the side aisles is to be lamented, as they narrowed the building and broke in upon the beauty of the design; and the architect (observes Spence) insisted so strongly on the prejudice they were to the building, that he actually shed tears on speaking of it; but he remonstrated in vain. It would seem that this sort of interference is a misfortune peculiarly incidental to architects. Few would pretend to have a voice in the composition of a picture or the arrangement of a group of statuary; yet there is scarcely the work of any great architect, in the execution of which he has not in a great measure been compelled to abandon his original design, and adopt the suggestions (often incongruous) of his employers. Michael Angelo, in particular, was exposed to a like persecution, in his great work of St. Peter's, and alike had the harmony and beauty of his design impaired. After much cavilling the different objections were removed; Wren received an express order from the king to proceed according to his own plans; he was allowed to make what variations he pleased, and the whole was left to his own management. In thirty-five years from the commencement of the building, the highest and last stone was laid by Christopher, the son of the architect. Thus

was this splendid edifice, admitted to be the second for grandeur in Europe, completed in thirty-five years by one architect, under one bishop of London, costing only 736,000*l.*, which was raised by a small impost on coals brought to London; whilst St. Peter's, the work of twelve architects, took one hundred and forty-five years to build, during the pontificate of nineteen popes.

One of the principal objections to the edifice is, that Wren chose two orders instead of one and an attic story, as in St. Peter's. That he intended to have adopted the single order (going from the top to the bottom) appears from what we have before stated. But whilst Bramante, for the erection of St. Peter's, had the quarries of Tivoli at his command, which yielded blocks of nine feet in diameter; amply sufficient for his columns, Wren had only the quarries of Portland, and from them he could not reckon on blocks greater than four feet in diameter, nor were even these readily procured; on which account, and that he might keep the just proportions of his cornice, (which Bramante, by the failure of the stone, had been compelled to diminish,) he finally determined on the use of two orders.

The dome of the Pantheon is no higher within than its diameter; the dome of St. Peter's is two diameters; and this appears too high, the other too low: Wren took a mean proportion, which shows its concave every way, and is lighted by the windows of the upper order, which permit the light to strike down through the great colonnade that encircles the dome without, and serves at the same time for the abutment of the dome itself, which is of two bricks thick, every five feet high having a course of bricks eighteen inches long bonding through the whole thickness. In consequence of the prejudice in favour of steeples, and that no disappointment might arise of the new church falling short of the old one, Wren, to give a greater height than the cupola would gracefully admit of, felt compelled to raise another structure over the first cupola. For this purpose he constructed a cone of brick, so as to support the vast stone lantern which surmounts it. This cone was covered with an oak roof, and this again with lead, in the same manner as the other parts of the church. Between this outside covering and the brick cone there are stairs to ascend to the lantern, lighted



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|------------------------------|-------------------------------|--|
| 1. Great Pyramid. | 7. Salisbury Spire. | 13. Nelson's Column. |
| 2. Spire of Mechlin. | 8. Notre Dame, Paris. | 14. Obelisk, front of St. Peter's. |
| 3. St. Peter's. | 9. Pagoda by Sir W. Chambers. | 15. Cleopatra's Needle. |
| 4. St. Paul's. | 10. Wellington's Testimonial. | 16. Leaning Tower at Pisa. |
| 5. Strasburgh Cathedral. | 11. Monument, London. | 17. Temple of the Giants, Agrigen-
[tum.] |
| 6. Hôtel de Ville, Brussels. | 12. Trajan's Column. | |

from the lantern above, which did away with the necessity of making the small ugly windows in the dome, as at St. Peter's. The inside of the whole cupola is painted by Sir James Thornhill, in eight compartments. In the crown of the vault, as in the Pantheon, there is a circular opening, by which not only the lantern transmits light, but the inside ornaments of the painted and gilded cone display a new and agreeable scene. Instead, however, of painting the dome, Wren had proposed it should, like that of St. Peter's, be enriched with the more durable and appropriate ornament of Mosaic, and had procured artists from Italy for its execution; but the ignorance and the prejudice of the persons employed as commissioners, in this, as in other cases, thwarted his views. The ornaments at the East end he designed should only be temporary, till the materials for the completion of a magnificent altar which he had planned could be procured.

In scale* and beauty of internal ornament, as well as material, situation, and climate, the work of Wren cannot come in competition with its great rival; but in architectural excellence it has fair claims to be placed on an equality; surpassing it in some things, if in others it falls short. The portico in front of St. Peter's, both for its beauty of proportion and vast size, is admitted to be a feature of high excellence and without any match in St. Paul's; yet the whole flat front of St. Peter's, terminating in a straight line at the top, cannot be said to afford such a pleasing variety as is bestowed by the elevation of the pediment in the middle, and the beautiful campanile towers at each end of the front of St. Paul's. One of the happiest parts of the invention is in the intersection of the three vistas of the nave, the aisles, and the cross and transept, attained by the octangular arrangement of the piers, which is as beautiful as it is novel, giving four additional views to the usual arrangement, and with an effect remarkable for its boldness and lightness. Fi-

gures 4 and 5, exhibit the ground plans of the two buildings drawn on

Fig. 4.

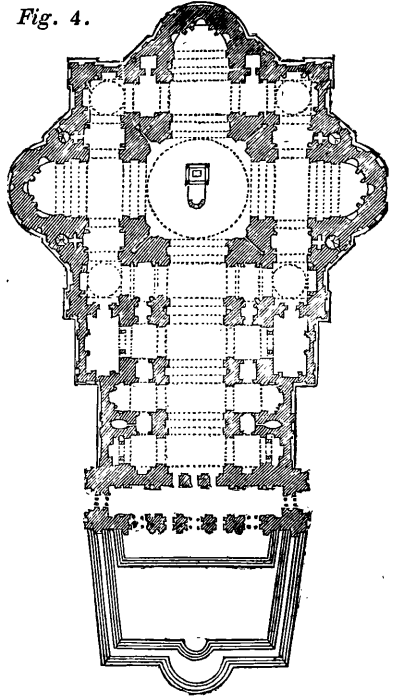
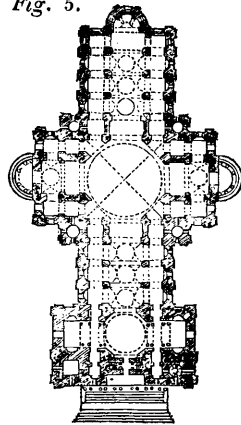


Fig. 5.



* Relative Sizes.

	St. Peter's.	St. Paul's.
Long within	669	500
Broad at the entrance	226	100
Front, without	395	180
Broad at the cross	442	223
Cupola, diameter	139	108
Cupola and lantern, high	432	330
Church, high	146	110
Height of pillars in front	91	40

the same scale; the peculiarity noticed in the ground plan of St. Paul's is pointed out by the dotted lines. In St. Peter's the whole building is surrounded by a repetition of vast pilasters. In St. Paul's, however, take the building in any point of view, it

is highly picturesque, the different returns and façades affording endless variety of views; no patching, no incongruous additions disfigure the unity of the composition, which, as a whole, for harmony of design and justness of proportion, has certainly never been surpassed.

With respect to the charge of plagiarism from the work of Michael Angelo, the two buildings are sufficiently different utterly to rebut this. The Romans adapted to their purposes the beauties of the architecture of Greece, combining them so as to suit their intentions; and Palladio, abandoning the barbarous taste of the middle ages, adapted the great remains both of Greek and Roman antiquity to the genius of the times, but did not repeat or copy them. Michael Angelo availed himself of the Pantheon in his cupola, and Wren, again, availed himself of the knowledge of M. Angelo; but there is nothing like servile copying, or unmeaning adaptation, in any one part of his work. To form a just idea of the relative sizes of the two buildings, we have added an outline, showing the comparative size of St. Peter's and St. Paul's, and the vacant spaces have been filled up with the outlines of some of the most remarkable buildings now existing, all on the same base and all drawn on the same scale, but unfortunately, owing to an error, the height of St. Paul's in the figure is a little less than it should have been. The buildings have principally been taken from the work of Mons. Durand, *The Parallel of Architecture*, by far the most important production of the kind which has yet been published, and affording great facility for the consideration of the general principles of architecture. It consists of ninety large folio plates, containing elevations and plans of the principal ancient and modern buildings and monuments, all drawn on the same scale. It is a matter of regret, that it is defective, inasmuch as, (either from jealousy or ignorance,) among the ninety plates, neither Westminster Abbey, York Cathedral, Greenwich and Chelsea Hospitals, our bridges, nor even our docks, (the largest in the world,) are inserted; and amongst the plans of English theatres, the only one given is that in the Haymarket.

In addition to the total want of the rich ornaments and the costly materials which adorn the interior of the church

of St. Peter, it also far surpasses the building of Wren in the nature of the materials with which it is constructed. It has been a matter of regret that the quality of the stone used in the public buildings of this country has been hitherto but little attended to. Many of the public edifices of London, Edinburgh, Bath, and Oxford, furnish melancholy instances of the want of judgment in this choice of materials. It is obvious that the stone which is most porous, will, when exposed to the weather, be least durable: water lodges in its pores and penetrates the crevices, and by the mere change of temperature does mischief; but during frost the expansion is so great, that in a single winter the sharp parts often entirely crumble away. The fitness of the different species of sandstone for the purpose of building, may in a great measure be judged of by immersing the specimens in water, each being previously weighed, and all of one size; the excellence of the stone will be inversely to the quantity of water absorbed. The magnesian limestone, so abundant in England, is considered the best adapted for architectural purposes; it is far preferable to that termed the Oolite of Somersetshire and the Isle of Portland, of which the most important buildings have hitherto been constructed. Rain water always contains carbonic acid, which acts chemically on limestone, but less on those kinds which are fine grained and magnesian, than those which are coarse and free from magnesia; and although this often produces an external hardening, as in the Bath stone, it is only the forerunner of a more quick peeling off and destruction. It is obvious, that for durability, the granites, sienites, whinstones, and porphyries, are most to be preferred. The Strand Bridge is a magnificent example of the use of granite; the exterior being entirely constructed of two sorts, the coarse-grained granite of Devon and Cornwall, and the fine-grained and harder sort from Aberdeen, used for the balustrades, and stronger than that from Cornwall, as 22 to 14. The only means of proving the respective durability of them is from the effect of time; and the Cornish granite evidently appears to have suffered more decay than the harder stone of the North. Granite, however, independently of the great increase of expense incurred in the working it, is unfitted for all the finer parts of ornamental work;

in that case it would be well to adopt the marble or dolomite of Scotland, or the magnesian limestones, so much to be preferred to the perishable sand and lime stones of the west of England.* But the subject has not yet received its due share of attention from those whose pursuits and knowledge best enable them to form an accurate judgment upon it.

Although Wren's new employments occupied much of his time, his zeal for the advancement of science never forsook him; but, as he employed himself in the practical parts of building, his communications to the Royal Society became more technical, and applied principally to his own art. A very interesting letter to Lord Brouncker, the first president of the Royal Society, is given by Mr. Elmes: it is in answer to a request to provide something for the suitable entertainment of his majesty, who had purposed visiting the Society. Upon this Wren observes, "The experiments for the establishment of natural philosophy are seldom pompous; it is upon billiard and tennis balls, upon the purling of sticks and tops, upon a vial of water, a wedge of glass, that the great Des Cartes has built the most refined and accurate theories that human wit ever reached to; and certainly nature, in the best of her works, is apparent enough in obvious things, were they but curiously observed; and the key that opens treasures is often plain and rusty, but unless it be gilt, the key alone will make no show at court." It does not appear how the philosophers succeeded in entertaining their royal guest. Wren in 1673 resigned the Savillian professorship, which he had held so long with credit. He was twice in Parliament, though it does not appear that he took any active part in the debates. In 1680 he was elected President of the Royal Society, and before that period he had been knighted by Charles II.

The delight one can well conceive a person of Wren's genius to have enjoyed, in the contemplation of the rise of the vast edifice which his creative genius had called into existence, was not undisturbed or unalloyed. Many improper persons were joined with him in the commission; and they, having private interests to serve, and selfish

feelings to indulge, were thwarted by the inflexibility of Wren, who exposed at once their meanness and their ignorance. This, it may be supposed, was neither forgotten nor forgiven; and they joined in a cabal, persecuting him with every species of bitter malevolence. It will scarcely be supposed that one of Wren's genius and talent, of his gentle bearing towards all, his high patriotic feeling, at once the judge and the patron of every thing that was useful either in the arts or sciences, should have been subjected to the petty cavilling of a few interested persons without greatly retarding the progress of the building. But this was not all; the party having procured a clause to be inserted in an act of parliament, suspending a moiety of his pittance (200*l.* a year) till the building was finished, Wren was kept out of his money long after it was due, under the pretence that the building was not complete, whereas the cavillers themselves, by their impediments, alone hindered its completion. He was in consequence obliged to petition Queen Anne; and in his memorial he states, that the arbitrary proceedings of some of the commissioners had alone obstructed his measures for the completion of the work. This was handed over to the commissioners themselves for their answer, who replied by mean and paltry excuses. Wren, however, was not to be borne down by a low cabal: he next addressed the Archbishop of Canterbury and the Bishop of London, and the document itself affords ample testimony of the treatment he had received.

"The design of the parliament (he states) in granting the coal duty for the said cathedral, being to have the building completed with all possible speed, they did, to encourage and oblige the surveyor's diligence in carrying on the work, suspend half his allowance till all should be done. Whereby, I humbly conceive, it may justly from thence be implied, that they thought the building, and every thing belonging to it, was wholly under my management; and direction, and that it was in my power to hasten or protract it. How far it has been so your lordships know; as also how far I have been limited and restrained. However, it has pleased God so to bless my sincere endeavours, as that I have brought the building to a conclusion, so far as is in my power; and I think nothing can be said now to remain imperfect, but the iron fence

* Brande's Journal, vol. iii, 381.

round the church, and painting the cupola, the directing of which is taken out of my hands, and therefore I hope that I am neither answerable for them, nor that the said suspending clause can, or ought to, affect me any further on that account. As for painting the cupola, your lordships know it has been long under consideration; that I have no power left me concerning it; and that it is not resolved in what manner to do it, or whether at all. And as for the iron fence, it is so remarkable and fresh in memory by whose influence and importunity it was wrested from me, and the doing it carried in a way that I may venture to say will ever be condemned. I have just this to observe further, that your lordships had no hand in it; and consequently ought not to share in the blame that may attend it.;

"This, then, being the case, and nothing left that I think can keep the same clause of suspension any longer in force against me,

"I most humbly pray your lordships to grant your warrant for paying me what is due to me on that article, which was 1,300*l.* last Michaelmas. And if for the future my advice and assistance be required in any thing about the said cathedral, I will be ready to give the same, and to leave the consideration of it to your lordships."

This representation not succeeding, he applied at once to parliament, who rendered him that tardy justice, the long denial of which reflects so much disgrace on those who opposed his just claims.

"Whereupon that honourable and august assembly," says Sir Christopher,* "so considered his case, and were so well satisfied with the justice and the reasonableness of it, as to declare the church to be finished so far as was required to be done and performed by him as surveyor-general. And it was accordingly enacted, that the suspended salary should be paid him on or before December the 25th, 1711, which he has the truest sense of, and has not, he hopes, been wanting in all due acknowledgments and returns for it. Neither is it possible that he, or his posterity should ever forget so signal and distinguishing a favour, while he can remember the unjust and vile treatment he had from some in the late commis-

sion for St. Paul's; which was such as gave him reason enough to think that they intended him none of the suspended salary, if it had been left in their power to defeat him of it."

By the death of Anne, Wren lost the last of his royal patrons; in the new reign, the king's partiality for his German subjects and their connections deprived him of the sunshine of royal favour. His talents, his uprightness, and his fame were all forgotten: the corruption of that period in the disposal of patronage is well known. At last, after a severe struggle in the 86th year of his age and the 49th of his office as surveyor-general, he was deprived of his patent in favour of one Benson, his German influence prevailing over one who would not condescend to truckle even to a court, and whose life, as Walpole observes, having enriched the reign of several princes, disgraced the last of them. The intrigue which deprived him of his office is noticed in the memoirs of John Ker of Kersland; who states that, "so great was the influence of Benson, (a favourite of the Germans,) that Sir C. Wren, the famous architect who contrived the stately edifice of St. Paul's church, was turned out of his employment to make way for this favourite of foreigners." Pope also in a note to the *Dunciad* says, "In favour of this man, the famous Sir C. Wren, who had been architect to the crown for above fifty years, who built most of the churches in London, laid the first stone of St. Paul's, and lived to finish it, was displaced from his employment at the age of 90 years."

It may, indeed, be observed, that Wren's son was at this time member for Windsor, and probably some opposition to the wishes of the court might have had an influence on the father's fall. Benson himself, however, was soon disgraced and removed on the discovery of his ignorance and incapacity, and marked for public prosecution for his dishonesty; but the same influence, which had caused his original elevation, at once stopped the prosecution and loaded him with disgraceful rewards out of the public purse,* in the shape

* Benson and Wren each had his due notice in the *Dunciad*.

Benson, sole judge of architecture, sit,
And namby pamby be preferred to wit;
While Wren with sorrow to the grave descends
Gay dies unpension'd with a hundred friends.

* In a pamphlet which he published stating his case, and for the purpose of answering an attack made on him in a pamphlet entitled "Fraudulent Abuses at St. Paul's."

of reversionary grants and crown leases.

The following curious paper of Wren's is given by Mr. Elmes: it is in answer to the commissioners, who insisted on a balustrade to St. Paul's, none having been originally designed; and it is one of the long series of attacks which were made on him by his enemies.

"I have considered the resolution of the honourable the commissioners for adorning St. Paul's Cathedral, dated October 15, 1717, and brought to me on the 21st, importing that a balustrade of stone be set up on the top of the church, unless Sir Christopher Wren, in writing under his hand, set forth, that it is contrary to the principles of architecture, and give his opinion in a fortnight's time; and if he doth not, then the resolution of a balustrade is to be proceeded with.

"In observation of this resolution, I take leave, first, to declare I never designed a balustrade. Persons of little skill in architecture did expect, I believe, to see something they had been used to in Gothic structures; and *ladies think nothing well without an edging*. I should gladly have complied with the vulgar taste, but I suspended for reasons following:

"A balustrade is supposed a sort of plinth over the upper colonnade, which may be divided into balusters over open parts or voids, but kept solid over solid parts, such as pilasters; for a continued range of balusters cannot be proposed to stand alone against high winds: they would be liable to be lopped down in a row, if there were not solid parts at due distances intermixed, which solid parts are in the form of pedestals, and may be in length as long as the frieze below where pilasters are double, as in our case; for double pilasters may have one united pedestal, as they have one entablature and one frieze extended over both. But, now, in the inward angles, where the pilasters cannot be doubled, as before they were, the two voids or more open parts would be in the angle with one small pilaster between them, and create a very disagreeable mixture. I am further to observe, that there is already over the entablature a proper plinth, which regularly terminates the building; and as no provision was originally made in my plan for a balustrade, the setting up one in such a confused manner over the plinth must apparently break into the harmony of

the whole machine, and, in this particular case, be contrary to the principles of architecture.

"The like objections as to some other ornaments, suppose of vases, for they will be double upon the solids; but in the inward angles there will be scarce room for one, though each of them be about two feet nine inches at bottom, and nine feet high: yet these will appear contemptible below, and bigger we cannot make them unless we fall into the crime of false bearing, which artisans of the lowest rank will have sense enough to condemn.

"My opinion, therefore, is to have statues erected on the four pediments only, which will be a most proper, noble, and sufficient ornament to the whole fabric, and was never omitted in the best ancient Greek and Roman architecture; the principles of which, throughout all my schemes of this colossal structure, I have religiously endeavoured to follow; and if I glory, it is in the singular mercy of God, who has enabled me to begin and finish my great work so conformable to the ancient model.

"The pedestals for the statues I have already laid in the building, which now stand naked for want of their acroteria.

"CHRISTOPHER WREN."

These details respecting the erection of a building which (if we except St. Peter's) is unrivalled in the world, will not, it is hoped, appear either trifling or tedious, but give an additional interest to the contemplation of that splendid monument of Wren's genius.

The character and fate of Michael Angelo and Wren were in many respects akin: remarkable alike for the universality of genius, each the builder of the greatest work of architecture of his time, each untainted by any vice, and regardless of private interests, (for Michael Angelo received no remuneration on account of St. Peter's,) they were both persecuted by the envious, and each had his works altered by the ignorant. Michael Angelo's severe honesty, in compelling those who received pay to give their labour in return, conjured up a whole host of enemies; and sickened with these obstacles he sought to free himself by the resignation of his charge. "I entreat your eminence," he writes to Cardinal Carpi, "to liberate me from this vexatious employment, which, by the command of the popes, I undertook seventeen years ago, during which pe-

ried I have given manifest proofs of my zeal in the prosecution of the work. I again earnestly entreat I may resign, which would be conferring on me the greatest favour."

Amongst the many willing to do justice to the merit and the modesty of Wren, when labouring under the persecution of court intrigue, was Sir Richard Steel, who, in his *Tatler*, No. 52, under the character of Nestor of Athens, observes that "his art and skill were soon disregarded for want of that manner with which men of the world support and assert the merits of their own performances; this bashful quality still put a damp on his great knowledge, which has as fatal an effect upon men's reputation as poverty, for it is said; (Ecclesiasticus, ch. ix. v. 15,) *The poor man by his wisdom delivered the city, yet no man remembered the same poor man.* So here we find *the modest man built the city, and the modest man's skill was unknown*; but surely posterity are obliged to allow him that praise after his death which he so industriously declined while he was living."

CHAPTER V.

To the End of his Life.

WREN quitted the field without a struggle; he retired in peace from the world to his home at Hampton Court, without being affected by any of that bitterness or those angry feelings which the ingratitude and injustice of a court so often engender in minds of less noble stamp, saying, *Nunc me jubet fortuna expeditius philosophari.* Cheerful in his solitude, and as well pleased to die in the shade as in the light—his son observes of him in the *Parentalia*, "that the vigour of his mind continued with a vivacity rarely found in persons of his age, till within a short period of his death, and not till then could he quit the great aim of his whole life to be (to use his own words) a benefactor to mankind; his great humanity appearing to the last in benevolence and complacency, free from all moroseness in behaviour or aspect; he was happily endued with such an evenness of temper, steady tranquillity, and Christian fortitude, that no injurious incidents or inquietudes of human life could ever ruffle or discompose."

The five remaining years of his life were passed in complete repose. Returning occasionally to superintend the repairs of Westminster Abbey, his only remaining public employment, he di-

vided his time between the study of the Scriptures, which were at once his guide and his delight, and in the revision of his philosophical works, more particularly those upon the Longitude, and his tracts on Mathematics and Astronomy. Time, which had enfeebled his limbs, left his faculties unclouded till nearly the end of his existence. His chief delight to the very close of life was, that of being carried once a year to see his great work; "the beginning and completion of which," observes Walpole, "was an event which one cannot wonder left such an impression of content on the mind of the good old man, that it seemed to recall a memory almost deadened to every other use."

Wren's dissolution was as placid as the tenour of his existence had been. On the 25th of February, 1723, his servant conceiving he slept longer after his dinner than usual, entered his room, and found him dead in his chair.—He, to whom in his latter days all distinction had been denied, received, as frequently happens, the tardy honour of a splendid funeral; his remains were deposited in the crypt under the southernmost window of the choir of the Cathedral which he had raised; a plain black slab alone covers the coffin, but no monument beyond the Pile itself attests his goodness or his greatness. On the western jamb of the window of the crypt, is a tablet with this inscription:

Subtus conditur
Huius ecclesias et urbis conditor
Ch. Wren,
Qui vixit annos ultra nonaginta
Non sibi sed bono publico.
Lector, si monumentum quæris
Circumspice.*

Robert Milne, one of his successors in the care of the cathedral, caused this inscription to be placed in gilt letters in a tablet in front of the skreen of the organ: and it is a reproach to the nation and to the age, that no other monument has ever been erected. Indeed, until Mr. Elmes's volume, (with the exception of the *Parentalia*),† no biographical notice

* "Beneath is laid the builder of this church and city, Christopher Wren, who lived above ninety years, not for himself but for the public good. Reader, if thou seekest for his monument, look around."

† *Parentalia, or Memoirs of the Family of the Wrens*, folio, London, 1750. This work was commenced by the son of Sir C. Wren, and was not completed till thirty years after his death, when it was published by his grandson, Stephen Wren. The work itself is of little interest; most of the facts it records have been adopted by Mr. Elmes, in his *Life of Wren*, 4to., 1823, and from these two works the biographical part of the present treatise has been chiefly compiled.

of him had been published. We trust, however, that before long Mr. Cockerel, the present architect to St. Paul's, who has lately superintended its repairs with so much judgment, will carry into effect an intention he is known long to have entertained, of giving to the world a critical account of Wren's most important architectural works, accompanied by a selection from the large collection of drawings now in the library of All Souls' College. Till this shall be done, it can hardly be said that his professional merits can be duly appreciated. Mr. Cockerel's attainments and talents afford a pledge that the work will be all that either the architect or the amateur can require.

Wren was twice married; first to the daughter of Sir Thomas Coghill, by whom he had one son, Christopher. He afterwards married a daughter of William Lord Fitzwilliam, Baron of Lifford, in Ireland, by whom he had a son and a daughter. The family is not extinct: Mr. Elmes mentions two daughters, and the son of his grandson Stephen, and Christopher Wren, the son of their cousin, of Wroxhall-abbey, in Warwickshire, a seat of Sir C. Wren's, where his only son, Christopher, is buried,

In considering the life of Wren we are struck with the splendour of his abilities, the greatness of his perseverance and labour, the scantiness of his remuneration, and the ingratitude and injustice which he experienced towards the close of his long and arduous course. When the prices paid in these days to artists are called to mind, what must be the surprise at learning that the whole salary paid to the architect of St Paul's was only 200*l.* a year. Wren afforded all his services in the building of Greenwich Hospital, without any salary or emolument, preferring in this, as in every other passage of his life, the public service to private advantage. And it will be observed, that his salary of 200*l.* a year was not paid for his mere designs and time; it included the whole expense of models and drawings of every part, the daily overseeing of the works, the framing of the estimates and contracts, and auditing the bills. Without making any invidious comparison, it cannot be denied, that of late there have been few such examples shown of disinterested services towards the public by artists employed in situations similar to his. The scantiness of his pay

was more than once noticed by the writers of the time; and Sarah Duchess of Marlborough, in a letter* respecting the charges of one of the persons employed to superintend the completion of Blenheim, who had made a charge of 300*l.* a year for his services, beside a salary for his clerk, complains bitterly at being compelled to pay this, "when," she observes, "it is well known that Sir C. Wren was content to be dragged up in a basket three or four times a week to the top of St. Paul's, and at great hazard, for 200*l.* a year."—Her Grace was perhaps but little capable of drawing any nice distinction between the feelings of the hired surveyor of Blenheim, and those of our architect in the contemplation of the rising of the fabric which his vast genius was calling into existence: her notions led her to estimate the matter by the simple process of the rule of three direct; and on this principle she certainly had good reason to complain of her surveyor.

CHAPTER VI.

His other Works.

IN addition to the great work of St. Paul's, Wren, who was appointed the architect for the rebuilding of the whole city, superintended the erection of all the churches, amounting to more than fifty; he was also the architect and contriver of Chelsea College, and the principal officer and comptroller of the works at Windsor. A considerable part of Greenwich Hospital was erected by him, and a splendid palace for a hunting seat of Charles II., now turned into a barrack, was commenced at Winchester. In addition to all these duties, a large proportion of his time was occupied, after the fire of London, in setting out and ascertaining the sites of the different houses destroyed—an employment little suited to his genius, and which involved him in endless altercation. His pay as the architect for rebuilding the churches in the city, was not more liberal than for St. Paul's, being no more than 100*l.* a year; the parish of St. Stephen, Walbrook, however, appears, on his completing that admirable church, to have voted a present to his lady of twenty guineas!

In a sketch intended merely for general readers, it is not necessary to enumerate in detail the different churches erected by him: those which

* In the possession of W. Tooke, Esq.

are most celebrated for the beauty and convenience of the interior, are St. Stephen's, Walbrook, St. Andrew's, Holborn, and St. James's Church in Piccadilly. St. Stephen's is, by many, considered as the most perfect specimen of Wren's genius; and it has not, perhaps, been surpassed by any modern edifice in elegance and unity of design. It is an oblong square of seventy-five by fifty-six feet; its peculiar beauty arises from the elegance of the vaulting, the form of the cupola, the disposition of the Corinthian columns, the lightness of the supporting arches, and the distribution of the light from above. A judicious and elegant writer on the *Public Buildings of London* observes, "that this building, so little known amongst us, is famous all over Europe, and is reputed the masterpiece of Wren. Perhaps Italy itself can produce no modern building that can vie with it in taste or proportion. There is not a beauty which the plan would admit of, that is not to be found here in its greatest perfection: and foreigners very justly call our taste in question for understanding its graces no better, and allowing it no higher degree of fame." Such is the reputation of this structure amongst foreigners, that an anecdote is told of an Italian architect who arrived in London and immediately returned after having visited St. Stephen's.

The church of St. James, in Piccadilly, is divided, in the interior, into a nave and two aisles; the principal merit is in the formation of the roof, which is described from information furnished by Mr. Cockerel, as singularly ingenious and economical; and its simplicity, strength, and beauty, are represented as a perfect study of construction and architectural economy. Sir Christopher Wren, who himself conceived this to be one of the best contrived of his churches, observes in a letter—

"Churches must be large: but still, in our reformed religion, it should seem vain to make a parish church larger than that all who are present can both hear and see. The Romanists, indeed, may build larger churches: it is enough if they hear the murmurs of the mass, and see the elevation of the host; but ours are to be fitted for auditories. I can hardly think it practicable to make a single room so capacious, with pews and galleries, as to hold above two thousand persons, and all to hear the service, and see the preacher. I en-

deavoured to effect this, in building the parish church of St. James, Westminster, which, I presume, is the most capacious with these qualifications that hath yet been built; and yet at a solemn time, when the church was much crowded, I could not discern from a gallery, that two thousand were present. In this church I mention, though very broad, and the nave arched up, yet as there are no walls of a second order, nor lanterns, nor buttresses, but the whole of the roof rests upon the pillars, as do also the galleries, I think it may be found beautiful and convenient, and, as such, the cheapest of any form I could invent."

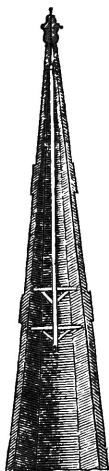
The interior of St. Andrew's, Holborn, after St. James's Church, affords one of the best specimens of arrangement; spacious, rich, and beautiful. It has a nave and two aisles divided into a basement and galleries: the length is a hundred and five feet, the breadth sixty-three, and the height forty-three.

No architect can come in competition with Wren in the construction of the steeple, which is considered a requisite in Christian churches, and in the composing of which it required his genius to combine the excellence of the Roman architecture, with the requisites of height and lightness, to which it had not before been adapted with any success. The spire of St. Dunstan's in the East is admitted to be unrivalled for elegance, and is one of the finest monuments of geometrical skill in existence. That of Bow Church is also among the most elegant of Wren's works; the bottom is a plain tower till it rises over the houses; above this is a beautiful temple, and over it stand flying buttresses supporting a lighter temple, surmounted by a spire. Nothing can afford fuller evidence of his power to combine and adapt the elegant features of the Roman architecture, so as to suit the genius of the work. Wren has not fallen into the common error in building spires, of making the spire straddle across a Greek pediment and crush it with the weight; thus, the spire of Bow Church is built separately, and rises from the ground at an angle of the church.

Another curious work of Wren was the pendulum stage in the upper part of the spire of the Chichester Cathedral, which he rebuilt, to counteract the south-westerly gales, which had forced it from its perpendicularity. (*Fig. 6*) A

sketch to illustrate this has been added from the work of Mr. Elmes. To the finial is fastened a strong metal ring, and to that is suspended a large piece of timber, 80 feet long, loaded with iron; at the bottom are two oak floors, the upper about two inches and a half, and the lower three inches less than the interior masonry of the spire. When the wind blows the spire out of the perpendicular, the pendulum floor touches the lee side of the spire, thus tending to restore the equilibrium of the masonry.

Fig. 6.



The Doric column at the foot of London Bridge, (Monument,) the largest single column in existence, except the Wellington testimonial, at Dublin, was also designed by Wren; its entire height is 202 feet, being 42 higher than Trajan's column; the pedestal is 40 feet high, 20 feet square; the diameter of the base is 15 feet, and there is a staircase in the shaft of 345 steps.

The works of Sir C. Wren do not appear to have been all uniformly successful. Hampton Court and Winchester Palace are far from being favourable specimens of the art. The studies made by him from the buildings of Louis the Fourteenth had too visible an effect on his own designs of palaces and private buildings; and "it may be considered fortunate," observes Horace Walpole, "that the French built only palaces and no churches, and therefore Saint Paul's escaped, but Hampton Court was sacrificed to the god of false taste." Wren's failure at Hampton Court may, in a great measure, be attributed to his having worked under the directions of William, whose favourite residence it was, and whose taste in architecture was far below his merit as a patriot king; indeed, when the arrangement of the low cloisters was criticized, the monarch, with his wonted honesty, took the whole blame on himself, acknowledging that they had been constructed by his own particular orders. Nor is it unreasonable to infer that in his other buildings, the defects arose in some degree from the taste of his employers, and that he was compelled by them to

adopt the French fashions, which at that time retained the powerful influence in this country, which the profligate and frivolous court of Charles II. had bestowed upon them.

We have omitted to notice the College of Physicians,* built by Wren, which, in a particular department, was one of the most scientific of Wren's edifices. The exterior, indeed, was nowise to be admired; but in the interior, for the purposes of utility and convenience, it was considered perfect, as affording every facility both for seeing and hearing, in the display of anatomical operations and philosophical experiments. As a study of *acoustic* and *optical* architecture it was perhaps unrivalled, the peculiar character of the roof and form of the section being admirably adapted to the distribution of sound, and the form of the hall equally suited to the convenience of seeing.

In the construction of theatres and of churches, the propagation of sound is one of the most important points to be attended to. The doctrine of *acoustics* is little understood by builders in this country, and yet, however hidden to us the subject may be, it is certain the ancients understood its principles with great accuracy; whilst in modern times this important object of architecture has been almost wholly neglected. Vitruvius describes the effects of the science as well understood by the Greeks. The method of producing the effect of the increase of sound in their theatres was singular; and from the mention of it in Vitruvius, as being of frequent use both in these and in the Roman theatres, it is to be inferred that the effect sought was produced. The arrangement, as described, consisted in placing bronze vases or jars in small chambers or recesses having an opening in front in the *precinctio*, between the first and second row of seats. These jars were inverted, having one end partially raised: they were of different sizes, and are said to have been arranged according to some principle of harmony. It has been a matter of considerable surprise that, with the number of travellers who have been of late so actively exploring the antiquities of Greece and Italy, no remains of this contrivance have been discovered. Mr. Banks, however, it is said, discovered at Scythopolis the remains of these chambers situated in the *precinctio*,

* This building is now dismantled.

with doors at the back, apparently for the convenience of access to adjust the vases. This is an important subject of consideration in the construction of theatres, and more particularly in church architecture. In the present churches it not unfrequently happens that the architect ensures the congregation full opportunity of contemplating his edifice, by so building it that no articulate sound can reach half the persons present. There is another important point in the construction of churches, which has been hitherto mainly overlooked, namely, the advantage arising from what is termed *hypæthral* light, or light from the roof. When this is adopted, the interior architecture has its own light and shade in the same way as the outside; and that solemn effect, so well adapted to sacred buildings, is attained by the appearance of seclusion and abstraction which the light coming from above instead of the sides is calculated to bestow.

Wren did not publish any works in his lifetime, except his contributions to the Royal Society, and his answer to the attacks made against him. In the *Parentalia*, a few fragments of essays are printed, some of which contain very judicious observations on the science of architecture. The limits of this sketch do not, however, permit any very long extracts; the following are, perhaps, the most interesting:

"Position is necessary for perfecting beauty. There are only two beautiful positions of *strait lines*, perpendicular and horizontal; this is from nature, and consequently necessity, no other than upright being firm. Oblique positions are discord to the eye, unless answered in pairs, as in the sides of an equicrural triangle; therefore *Gothic* buttresses are all ill-favoured and were avoided by the ancients, and no roofs, almost, but spheric raised to be visible, except in the front, where the lines answer in spheric in all positions the ribs answer. Cones and multangular prisms want neither beauty nor firmness, but are not ancient.

"Views contrary to beauty are deformity, or a defect of uniformity: and plainness, which is the excess of uniformity: variety makes the mean.

"Variety of uniformities makes complete beauty. Uniformities are best tempered, as rhymes in poetry, analogies, or sometimes with more variety, as in stanzas.

"In things to be seen at once much variety makes confusion, another vice of beauty. In things that are not seen at once, and have no respect one to another, great variety is commendable, provided this variety transgress not the rules of *optics* and *geometry*.

"An architect ought to be jealous of *novelties*, in which fancy blinds the judgment; and to think his judges as well those that are to live five centuries after him, as those of his own time. That which is commendable now for novelty, will not be a new invention to posterity, when his works are often imitated, and when it is unknown which was the original; but the glory of that which is good of itself, is eternal.

"The architect ought above all things to be well versed in *perspective*, for every thing that appears

well in the orthography may not be good in the model, especially where are many angles and projections; and every thing that is good in model may not be so when built; because a model is seen from other stations and distances than the eye sees the building; but this will hold universally true, that whatsoever is good in perspective, and will hold so in all the principal views; whether direct or oblique, will be as good in great, if this only caution be observed, that regard be had to the distance of the eye in the principal stations.

"Things seen near at hand may have small and many members, be well furnished with ornaments, and may lie flatter; on the contrary, all this care is ridiculous at great distances; there bulky members and full projections casting quick shadows are commendable; small ornaments at too great distance serve only to confound the symmetry and to take away the lustre of the object, by darkening it with many little shadows.

"There are different reasons for objects, whose chief view is in *front*, and for those whose chief view is *sideways*.

"Fronts ought to be elevated in the *middle* not the *corners*; because the middle is the place of greatest dignity and first arrests the eye; and rather projecting forward in the middle than hollow. For these reasons pavilions at the corners are naught, because they make both faults, a hollow and depressed front. Where *hollows* and *solids* are mixed, the hollow is to be in the middle; for hollows are either niches, windows, or doors. The first require the middle to give the statue dignity; the second, that the view from within may be direct; the third, that the *visto* may be straight. The ancients elevated the middle with a tympan and statue, or a dome. The triumphant arches, which now seem flat, were elevated by the magnificent figure of the victor in his chariot with four horses abreast, and other statues accompanying it. No sort of pinnacle is worthy enough to appear in the air but statue. Pyramids are *Gothic*; pots are modern *French*. Chimnies ought to be hid if not well adorned. No roof can have dignity enough to appear above a cornice but the circular: in private buildings it is excusable. The ancients affected flatness. In buildings where the view is sideways, as in streets, it is absolutely required that the composition should be square; intercolumniations equal; projections not great; the cornices unbroken, and every thing strait, equal, and uniform. Breaks in the cornice, projections of the upright members, variety, inequality in the parts, various heights of the roof, serve only to confound the perspective and make it deformed; while the breaches and projections are cast upon one another and obscure all symmetry. In this sort of building there seems no proportion of length to the height; for a portico the longer the more beautiful, in infinitum; on the contrary, fronts require a proportion of the breadth to the height; higher than three times the breadth is indecent, and as ill to be above three times as broad as high. From this rule I except obelisks, pyramids, columns, such as Trajan's, &c., which seem rather single things than compositions; I except also long porticoes, though seen direct, where the eye, wandering over the same members, infinitely repeated, and not easily finding the bounds, makes no comparison of them with the height."

"Modern authors, who have treated of architecture, seem generally to have little more in view, but to set down the proportions of columns, architraves, and cornices, in the several orders as they are distinguished into Doric, Ionic, Corinthian, and Composite; and in these proportions, finding them in the ancient fabrics of the Greeks and Romans, (though more arbitrarily used than they care to acknowledge,) they have reduced them into rules, too strict and pedantic, and so as not to be transgressed without the crime of barbarity; though, in their own nature, they are but the *modes* and *fashions* of those ages wherein they were used; but because they were found in the great structures, (the ruins of which we now admire,) we think ourselves strictly obliged still to follow the fashion, though we can never attain to the grandeur of those works."

CHAPTER VII.

The School of Wren.—His Successors.

It may be proper to close this treatise with a few observations on the successors of Wren,—on the present taste for architecture,—and on the French school.

Hawkesmore, Vanbrugh, Gibbs, and others, of the same date, followed in his footsteps, proceeding upon the foundations laid by the revived or Palladian school. Hawkesmore was amongst the most successful pupils; he was so considered by his master, and he certainly surpassed his contemporary, Vanbrugh. It is observable, that after the age of Wren, something beyond the pitch of the art was attempted by his immediate successors, and amongst the foremost in this attempt was Hawkesmore. Something beyond the orders, something almost colossal appears to have been effected; but although there was a partial success, it seems as if something greater was intended than was, or indeed could be, attained. The works of Hawkesmore evince great beauties of conception, but mixed with so many caprices and so many defects, that he has perhaps never yet received his due share of credit.

The steeple, as applied to a building on the plan of a Grecian or Roman temple, is always absurd, and even Wren himself could not always rescue it from deserved and contemptuous criticism: but Hawkesmore appears to have been the only one who has ventured to place this steeple on one side of the building, as in St. George's, Bloomsbury; by this means avoiding at least the incongruity of making a steeple rise out of a temple. St. George's, Limehouse, and St. Mary's Woolnoth's, may be considered as the best specimen of his style; and the beautiful portico of St. Martin's in the Fields, now again about to see the light, is the masterpiece of Gibbs.

Amongst the succeeding class in the Palladian school, the most conspicuous were Ware, Sir William Chambers, and the Adams. Sir William Chambers's works are remarkable for their taste and elegance, and for a purer imitation of the antique of Italy. The Adams, with many defects chiefly from falling into the details of the Venetian school, produced works worthy of admiration, and were the first who investigated the Roman baths and the remains of the Roman villas, thus opening a new

source of architectural combination, of which they often took great and judicious advantage. The Library at Luton is one of the most striking examples of this happy adaptation.

Without being entirely devoted to what is termed the Palladian school, or wishing to be supposed insensible to the beauty of the pure Grecian architecture, it must be admitted that the present taste for the pure Greek is carried too far. While we acknowledge the excellence of the great original, there is danger that some of the present professors may lose sight of the valuable additions which architecture has acquired from the labours of the Romans, and after them from the Revival school. These improvements are more adapted to utility than the Grecian architecture, which was besides deficient in some of the most important principles of magnificence, as for instance those obtained by the introduction of the arch, which opened a new field for grandeur, variety, and extent, and enabled the architect to cover a space beyond the power or combination of the Greeks to reach. It is almost impossible, by taking the very few existing examples of Grecian architecture (consisting only of sacred edifices) as models, to erect buildings calculated to serve the infinitely varied purposes of modern wants, without the risk of distortion and misapplication. The excellence of Greek architecture consisted in its principles of elegance and proportion, and what may be termed the detail, rather than its utility for the great purposes of construction. The shape of the Grecian temple admits of no change without the destruction of its beauty: add a side wing as a vestry, or let a tall spire shoot up above the low tympanum, and every principle of proportion and fitness is destroyed. Besides, the thing we produce has little resemblance to the original: the Grecian temple was designed to form a feature in the surrounding landscape, to be a vehicle for the exposition of sculpture, of the most exquisite and elaborate kind; it was radiant with gold, azure, and vermilion, laid on the pure marble; the delicate mouldings were to be seen under an unclouded sun, and to remain in a climate which conserved an unchanged appearance for ages. How different is the copy, cooped up in the smokes of a great city, composed of coarse materials, and without any aid of ornament, except a few mock stone vases or figures wretchedly executed!

The exclusive admiration of the Grecian architecture is becoming the cant of the day. It is impossible to agree with the dogmas of the professors in their exclusion of all the resources which the ingenuity of the moderns has furnished, and which the necessities of greater civilisation require: yet this different and less intolerant opinion may be entertained without any deficiency in admiration of the beautiful specimens of antiquity. This country is greatly indebted to the publications of Stuart and Revett, and of the Dilettanti Society, who first cultivated the true taste for Grecian antiquities, and laid accurate representations of them before the public. Stuart, whose original employment was that of painting fan mounts, but whose talents and industry enabled him to surmount all difficulties, conceived the happy idea of going to the original source of the beautiful in the arts; and from reading the Grecian history, figured to himself that there must remain at Athens a purer style than had been adopted either by the Romans or by the Revival school. He performed the journey on foot, with very slender resources, and joining company with Mr. Revett, produced the work which has redounded so much to the credit of himself and of his country. His project immediately excited the jealousy and with it the rivalry of the French, who despatched Le Roy in order to anticipate their labours, which he did by publishing his work at Paris long before the work of Stuart and Revett appeared. Le Roy however employed only twenty-one days in executing that which his rivals were engaged on for three years. The result might be easily foreseen. Le Roy's book soon sold for waste paper, and the *Athenian Antiquities* have since their publication in England been reprinted at Paris.

In mentioning the different great artists of the English school, we should do injustice in omitting the names of several distinguished amateur architects. Amongst the foremost of these stand Lord Pembroke, Lord Burlington, Lord Leicester, Dr. Aldrich, and Dr. Clarke, whose labours have tended so much to the advancement of the science, and whose works redound so much to their credit.

In comparing the French and English modern schools of architecture, Monsieur Le Grand, in his Essay, has very candidly admitted our superiority: "The English," he says, "adopted Pal-

ladio, whilst we have followed the orders of Vignola; but with this difference;—they adopted the plans of Palladio entire, and accompanied by all their elegance and simplicity, whilst we have applied the orders of Vignola to the most complex shapes in our buildings, and which we have overloaded with whimsical ornaments of the very worst taste; and the result of a comparison between the ancient architecture and ours is, that our own is complex, whilst that of the ancients was simple; theirs exhibits grand ideas in the most trifling edifices, whilst ours, in the execution of the greatest objects, are but a collection of small parts, and those united with difficulty, which is misnamed ingenuity."

The fact is, the French were ambitious of forming a new school: they were to invent new *orders* which were to be exclusively French; and their buildings in the age of Louis XIV. exhibit examples, in which all kinds of incongruous ornament are collected together without principle or meaning. To this succeeded what they conceived to be the pure Grecian taste; but as it was before the Grecian monuments had been studied or understood, this second manner was in truth very little more elegant or perfect than the former. They are scarcely ever successful in their attempts to adopt the styles of antiquity: although there is no nation so prone to affect a species of classical show, and none more ambitious of giving to the productions in art a classical air. This is observable particularly in their school of design, and in their drama; and yet it is impossible to contend that they have been successful. The difference of taste and manner between the French and the English, may, perhaps, be accounted for in some degree by their different modes of study. The French both in their studies and in their pursuits adopt more of the academic system than is followed in England; they work in bodies, and under the direction of the government, whilst our most laboured productions are the works of individuals, and consequently more likely to afford specimens of originality, if not of perfection. Without entirely denying the benefit of academies for the advancement of the arts, it is only from frequent experience of their failure through mismanagement, that the argument arises against increasing their number, or extending their influence.

LIFE OF WILLIAM CAXTON,

WITH

AN ACCOUNT OF THE INVENTION OF PRINTING, AND OF THE MODES AND MATERIALS
USED FOR TRANSMITTING KNOWLEDGE BEFORE THAT TOOK PLACE.

The ease, which we now find in providing, and dispersing, what number of copies of books we please, by the opportunity of the press, makes us apt to imagine, without considering the matter, that the publication of books was the same easy affair in all former times as in the present. But the case was quite different. For, when there were no books in the world, but what were written out by hand, with great labour and expense, the method of publishing them was necessarily very slow, and the price very dear; so that the rich only and curious would be disposed or able to purchase them; and to such also it was often difficult to procure them, or to know even where they were to be bought.—*Middleton's Free Enquiry*, p. 198.

CHAPTER I.

Introductory—Different kinds of Biography—Kind to which that of Caxton belongs—Principal object in selecting it—Nature and arrangement of the subjects necessary to be touched upon in order to attain that object.

THE lives of some men supply scanty materials for private and personal biography; whereas the materials that connect them with the advancement of the human race in knowledge, civilization, and happiness, are, in no common degree, rich and interesting. Such is the case with the life of William Caxton. Very few of the events of his life are known; and it is highly probable that, if we had them in minute detail, they would have presented nothing very curious or very instructive,—nothing that would have justified us in selecting his life, on account either of the insight it afforded into the formation of the human mind and character, or of the impressive and practical lesson it taught, that, in moral conduct, as certainly as in the material world, like causes will always produce like effects. Such lives as give this insight, and teach by powerful and repeated examples this most important, but too often neglected truth, are certainly of the highest utility as well as interest: they give biography a just claim to be ranked above all other studies, in so far as it teaches, most emphatically, that close attention, and persevering and zealous industry, are absolutely necessary for the acquisition of knowledge; and that these qualities, united with probity, are equally necessary to our success

in the world, and to our usefulness and respectability in society.

The biography of those men, however, whose lives have contributed to the improvement of the human race, even though they have displayed no superior talent, ought, by no means, to be neglected. Such lives must always command interest, and they may be so written as to convey useful information. On these accounts we have chosen the life of William Caxton. Through his zeal, industry, and perseverance, the art of printing was introduced into England, and firmly established here. It is a trite remark, that we know very little of the value, or even of the real nature of those advantages which have been familiar to us from our infancy, which we see all around us, the want of which never entered into our imagination, but of which, in times not very remote, our ancestors were utterly ignorant, and which are still unknown to the great majority of mankind.

At present, in our country, there could not, most probably, be found a single hovel in the most lonely and remote district, in which some books would not be found—not treasured as a great rarity and of high value, but, on the contrary, accessible to all. The art of printing has done this. Before it was found out, few books were to be seen except in monasteries, universities, and the libraries of those who were very fond of literature, or very rich. They were preserved by such as had them with the utmost care; guarded against loss equally with their most precious jewels; and never lent except with the utmost

precaution, and the best security for their return.

Now, when we wish to purchase a book, we go into a bookseller's shop, pay its price, and, without delay or formality, it is our own. *Then*, if the manuscript were rare and costly, the transfer by purchase was often conducted in a manner as circumspect, and guarded by as strict and legal evidence, as were necessary in the sale and purchase of an estate. *Now*, very little labour or time is requisite to ascertain where the scarcest books are to be procured. *Then*, as Dr. Middleton remarks, it was not only often difficult to procure them, but even to know where they were to be bought. *Now*, a small portion of the week's wages of a labouring man is sufficient to purchase books, which, while only existing in manuscript, could not be obtained except at the cost of a sum equal to his whole year's earnings: and for the manuscripts of many works, sums were *then* given equivalent (taking the value of money at those periods into the account) to the income of most persons in the middle ranks of life at present, and to what would now purchase a whole library suited to their station and adequate to their desires.

Then, not only did all books exist solely in manuscript, but, in many instances, there were few copies of those manuscripts; in some cases, perhaps not a dozen. Their destruction, therefore, at all times and under all circumstances, must have been no improbable event; and in those days of almost uninterrupted warfare and devastation, it very frequently occurred. Some were absolutely destroyed, no copies remained; others were mutilated and rendered imperfect, and their imperfections could not be removed. Others were lost by negligence, or too much care for their preservation during scenes of rapine and warfare, and in the midst of the plunder of ignorant and barbarian soldiers; and thus withdrawn, for ever, or for a long period, from the perusal and instruction of mankind. *Now*, since the invention of printing, the utter destruction, or the irreparable mutilation of a book, cannot scarcely occur, at least after it has once passed from the printing-office into the shops of the booksellers: if such an event could take place even then, the dispersion of an usual edition of seven hundred or one thousand copies among purchasers in every part of the kingdom, renders it perfectly secure from destruction or loss.

In the days of manuscript books, what expense and labour must have been submitted to, what a length of time must have elapsed, before an author could have conveyed his discoveries, or reasonings, or instructions, what would benefit or bless human life, to one thousandth part of the number of readers to whom the art of printing enables him to convey the fruits of his study or imagination with infinitely less expense and labour, and in an infinitely shorter space of time! What would our ancestors, who lived before printing was discovered, have said, had they, after having been present in the House of Commons till two or three o'clock in the morning, read at their breakfast table a detailed account of speeches, which had occupied nearly twelve hours in the delivery, and learnt that not one or two, but many thousand copies were, at that time, circulating?

Such is a very general representation of the state and means of literary communication before printing was discovered: whoever reflects on it will not be surprised that the progress of mankind, in every thing useful and valuable, was extremely slow and difficult. Individual and uncommunicated knowledge cannot purify itself from error; and, till printing was discovered, how much knowledge must necessarily have been individual and uncommunicated! The greater the number of minds that are brought to bear on any topic of research, experiment or thought, the sooner will its truth be ascertained and established. But when "there were no books in the world but what were written out by hand, with great labour and expense, the method of publishing them was necessarily very slow, and the price very dear, so that the rich only and curious would be disposed and able to purchase them." In these circumstances, error gained strength; important and valuable truths died at their very birth, or struggled useless and unproductive till the art of printing nourished them to maturity, and enabled them to strike their roots deeply and widely, and to produce their natural and genuine fruit of practical good to the human race.

But no general picture, however strongly and accurately it may be drawn, can speak so emphatically, either to the understanding or the imagination, as a picture, the outlines of which are filled up with strokes, minute but characteristic. No general contrast can exhibit a dif-

ference so clearly and powerfully as a contrast that enters into detail, and sets the individual circumstances directly in array against one another.

The facts already stated may enable and dispose our readers to prize, with some degree of justice, the advantages derived from the art of printing, and to form a vague and imperfect notion of what the state and amount of knowledge must have been, when all the books in the world were written out by hand. But we think we shall render these feelings and impressions much more vivid, distinct and permanent—we shall set the inestimable advantages derived from the art of printing in a clearer and more powerful light—we shall impress the contrast between our own means of improvement and those possessed by our ancestors, and even by the enlightened philosophers of Greece and Rome, in the very noon-tide of their intellectual vigour and glory, more deeply—if, before we give a sketch of the invention of printing, and of the life of Caxton, by whom the infant art was introduced into this country, and established here—we devote two chapters to a detail—first, of the modes and materials employed for the communication and transmission of knowledge among the Greeks and Romans, and during the dark and middle ages; and secondly, of the writing and copying of manuscripts—where it was executed, and by whom—their rarity and value—destruction—loss and recovery. We shall take care that the facts detailed in these chapters are well established—that they are curious and interesting, and, above all, that they bear directly and powerfully on the grand object we have in view,—to draw the deliberate attention and the well-grounded belief of our readers to this important truth, that the press has bestowed, is at present bestowing, and cannot cease to bestow, on mankind greater blessings than any other art has done or can do; since, without it, knowledge, and, consequently, all the benefits derived from knowledge, must have crept on with slow and feeble steps, whereas, with it, knowledge must proceed at a steady, onward pace, and with a vigour that will tread down or remove every obstacle.

CHAPTER II.

A Description of the Modes and Materials for communicating and transmitting Knowledge before the Invention of Printing.

THE few and simple laws, necessary in the very earliest stages of society, seem, at first, among the Greeks, to have been set to music, and chanted or sung. Afterwards they were engraven on a hard and solid substance, as stone, metal or wood. According to some authors, the laws of Solon were engraven on tablets of wood, so constructed that they might be turned round in wooden cases. Some of his laws, however, were certainly engraven on stone. The laws of the Twelve Tables among the Romans were engraven on oaken planks, ivory tables, or brass; most probably on the last. In order to give the Athenians an opportunity of judging deliberately on a proposed law, it was engraven on a tablet, which was hung up for some days at the Statue of the Heroes, the most public and frequented place in the city of Athens. And that no man might plead ignorance of his duty, the laws, when passed, were engraven on the walls of the royal portico; and persons were appointed to transcribe such as were worn or defaced, and to enter the new ones. The Arundelian Marbles, preserved in the University of Oxford, sufficiently prove for what a variety of purposes inscriptions on stone were used among the ancients. Some of the inscriptions on them record treaties, others the victories or good qualities and deeds of distinguished persons, others miscellaneous events: most of them, however, are sepulchral. By far the most important and celebrated is the Parian Chronicle, which, when entire, contained a chronology of Greece, particularly of Athens, for a period of 1318 years, viz. from the reign of Cecrops, A. C. 1582, to the archonship of Diognetus, A. C. 264. The Romans engraved on brass, even so late as the reign of the Emperors, in general, their code (plebiscita), contracts, conventions, and public records. The landmarks of estates were engraven on the same metal. The Roman soldiers were allowed, in the field of battle, to write their wills on their bucklers or scabbards; and in many cabinets are preserved the discharges of soldiers, written on copper plates. Lead was employed as well as brass for preserving

treaties and laws. And Pausanias informs us that he had seen, in the Temple of the Muses, the Works and Days of Hesiod, inscribed on leaden tables. In the year 1699 Montfauçon purchased, at Rome, a book of eight leaden leaves, (including two which formed the cover,) four inches long and three inches wide. Leaden rings were fastened on the back, through which a small leaden rod ran, to keep the leaves together.

Wood, however, was most generally used, both for public and private purposes, in various forms and modes. The inscription of laws on it has been already mentioned. Even in the 4th century the laws of the Emperors were published on wooden tables, painted with white lead; and formerly the Swedes inscribed or engraved their laws on wood: hence their term *Balkar* (laws), from *balkan*, a balk or beam. Wooden boards, either plain or covered with wax, were used long before the age of Homer: the former were called *Schedæ*, whence our word *schedule*. At first, the bare wood was engraven with an iron style: the overlaying them with wax was a subsequent invention. The styles used in both cases were of metal, ivory, or bone; one end pointed, the other smooth, for the purpose of erasing: hence our word *style*, used metaphorically, to signify the choice and arrangement of words employed by an author to express his thoughts. These tablets, or thin slices of wood, when fastened together, formed a book, *Codex*, so called from its resemblance to the trunk of a tree cut into planks. Hence our word *code*. When the Romans wrote letters on their tablets, they fastened them together with thread, and put a seal upon the knot. Table-books continued in use so late as the fourteenth century, and even later, as Chaucer evidently describes one in the *Sumpner's Tale**. They were then formed into a book by means of parchment bands glued to the backs of the leaves. The Roman boys used them at school; and in the middle ages, young men learning the sciences had table-books, and psalms for meditation were written on them. The expenses of Philip le Bel, written on tables of wax, may be seen in the library of St. Victor, at Paris; and in the archives of the town-hall of Hanover, are twelve wooden boards, covered with

wax, on which are inscribed the names of the owners of houses in that city. There is reason to believe that this enumeration was made at the beginning of the fifteenth century. The ancients generally used box and citron wood; in the middle ages beech was principally employed. The rich Romans used thin pieces of ivory, instead of wooden tablets. The edicts of the senate, the proceedings of the Roman magistrates, the principal transactions of the emperors, and the affairs of the princes, were recorded on ivory leaves or tablets. These were deposited in the magnificent library founded by Trajan at Rome.

The employment of leaves for the transmission of ideas is of great antiquity; and it is still common in different parts of the east. Hence the word *folio*, (from the Latin *folium*, a leaf,) and the meaning of *leaf*, when applied to a book. This mode of writing on leaves seems to have been superseded by the use of the bark—a material employed in every age and quarter of the globe. The outer bark was seldom used, being too coarse and rough. The inner bark was preferred, especially that of the lime tree. This bark the Romans called *liber*—hence *Liber*, the Latin name for a book. In order that these bark books might be conveniently carried they were rolled up; and in this form called *volumen*; this name was afterwards applied to rolls of paper and parchment—hence the origin of the word *volume*, applied to modern books, though of a different shape. Ancient manuscripts in bark are very scarce; but the use of bark for books still prevails in the east, especially among the Birmans. The custom of making books from bark prevailed among our Scandinavian and Saxon ancestors: the bark of the beech tree was most commonly used. The primitive meaning of the Anglo-Saxon word *boc* is the beech tree; its secondary meaning, a book—and hence our word, *book*. There are still extant some letters, and even love-letters, written by the ancient Scandinavians on pieces of bark. A very curious library of the kind was discovered some time ago among the Calmucs: the books were very long and narrow; their leaves of thick bark, varnished over; the writing white on a black ground.

Linen cloth, on which letters were drawn or painted with pencils, was employed by the Egyptians when, it is supposed, they wished to transmit such things as they designed to last very long.

* His felaw had a staf tipped with horn,
A pair of tables, all of ivory,
And a pointel (style) ypolished fetisly (neatly),
And wrote always the names, as he stood,
Of all folk that yave hem any good. (v. 33-37.)

In the British Museum there is a piece of writing of this nature, taken out of a mummy. The Romans likewise employed linen (*libri linteï*) not merely for what related to private subjects and persons, but also to enter the names of magistrates, treaties, and other public documents.

The employment of the skins of animals, rudely prepared, is stated by Herodotus to have originated with the Ionians, as a substitute for the papyrus, when it could not be procured without much difficulty and expense: those of sheep, goats, and asses were preferred. Several of these books are in the Vatican, the Royal Library of Paris, and some other libraries. The poems of Homer were written on the intestines of a serpent in letters of gold: this roll was first deposited in the library of Ptolemy Philadelphus, and afterwards taken to the great library of Constantinople, where it was destroyed by fire in the sixth century: it was 120 feet long.

Leather, or skins prepared in the present manner, seems to have been often used by the Jews, on which to write the Law, Pentateuch, and other parts of their Sacred Scriptures. Dr. Buchanan informs us, that in the coffer of the synagogue of the Black Jews, in Malaya, there is an ancient copy of the Law, written on a roll of leather; it is about fifteen feet long; the skins are sewed together. A copy of the Pentateuch, written beautifully in Hebrew characters, (without vowel points,) large, and of a square form, belonged formerly to M. Santander. It occupied fifty-seven skins, which were fastened together with the same material.

The Egyptian papyrus was applied to the purpose of writing upon before the preparation of parchment and its application to the same use were known. But in order to notice in connexion all the subjects employed by the ancients, which have been entirely superseded (except in very few instances) by the use of paper, we shall postpone our account of the papyrus, till we have stated a few particulars regarding the ancient use of parchment.

The common opinion, derived from the authority of Varro and Pliny, that the preparation of parchment from skins owes its origin to a dispute between Eumenes, King of Pergamus, and one of the Ptolemies, concerning their respective libraries, in consequence of which the Egyptian king prohibited the exportation of papyrus, and Eumenes invented parch-

ment, is certainly unfounded. Its manufacture and use are mentioned by Josephus, Diodorus Siculus, and other authors, as having been known long before the age of the Ptolemies: the name given to it by the ancients, however, *Charta Pergamena*, (paper of Pergamus,) renders it highly probable that its mode of preparation was improved, or its manufacture and use more general there, than in other places. Most of the ancient manuscripts now extant are written on parchment. From their appearance, the parchment has evidently been polished: according to ancient authors, by the pumice stone. They used three kinds—that of the natural colour; the yellow, bicolor membrana of Persius, which seems to have been so called because one side of the leaf was white, the other yellow; and the purple; the parchment being tinged with that colour, when silver or golden letters were to be used. It sometimes happened that parchment of the very finest kind was extremely scarce: about the year 1120, “one Martin Hugh, being appointed by the convent of St. Edmundsbury to write and illuminate a grand copy of the Bible, for their library, could procure no parchment for this purpose in England.”

Vellum, a finer kind of parchment, made from the skins of very young calves, was also prepared and used by the ancients, and in the dark and middle ages, for writing upon. There is one manuscript of vellum, of a violet colour, all the letters of which are of silver, except the initials, which are of gold,—which we particularly notice, for two reasons: first, it is the only specimen extant of the parent tongue, from which our own language, and the languages of Sweden, Denmark, Iceland, Norway, the Netherlands, and Germany, are derived; and, secondly, it was long supposed by many to exhibit a very near approach to printing, nearly 1000 years before the art was invented—we allude to the Gothic translation of the Gospels, by Ulphilas, in the fourth century. An imperfect copy of it is preserved in the library of Upsal. It is called the ‘*Codex Argenteus*,’ or silver book. The letters appear, and were generally judged, to have been stamped or imprinted, singly, on the vellum, with hot metal types, in the same manner as book-binders at present letter the backs of books. We are not aware that this opinion was called in question, till Mr. Coxe minutely and closely examined the MS., when

he convinced himself that each letter was painted, or drawn in the same manner as the initial letters in several of the finest missals. He seems also doubtful, whether to call the leaves vellum, parchment or papyrus.

We come now to paper. The most ancient kind was made from the *papyrus*, whence the word *paper* is derived. This is a species of rush, which the ancients procured exclusively on the banks of the Nile. The particular species, till lately, was not known; but it is now ascertained to be the *cyperus papyrus* of Linnæus, growing on the banks of different rivers in the east, and likewise, we believe, in Trinidad. The term *biblos*, originally applied by the Greeks to the inner bark of trees, and equivalent to the *liber* of the Romans, was afterwards more usually applied to the papyrus. Thence the term was transferred to books in general; and now it is confined by us to the scripture, as *the book*.

It is not known when the papyrus was first manufactured into paper; but there were certainly at a very early period, at least three hundred years before Alexander, manufactories of it at Memphis. Afterwards, and at the time of the conquest of Egypt, by the Romans, it was made chiefly at Alexandria. Till this conquest, however, the paper was of inferior quality. The Roman artists paid great attention to its improvement, and at length made it of considerable thickness, perfectly white and smooth. Even in this state, however, it was so friable and weak, that, when great durability was requisite, leaves of parchment were intermixed with those of papyrus. "Thus the firmness of the one substance defended the brittleness of the other, and great numbers of books, so constituted, have resisted the accidents and decays of twelve centuries."

The papyrus was highly useful to the ancient Egyptians, on many accounts, besides that of supplying them with paper: from the pith they extracted a sweet and nutritive juice; from the harder and lower parts they formed cups, &c.; staves, and ribs of boats, from the upper and more flexible part; and the fibrous part was manufactured into cloth, sails, ropes, strings, shoes, wicks for lamps, and paper. Pliny gives a full description of the manner in which it was made by the ancients; and Bruce, who succeeded in making it, both in Abyssinia and Egypt, has offered se-

veral very curious observations on the natural history of the papyrus, in the seventh vol. of his *Travels*, 8vo. edition, page 117, &c. In one point he differs from the account given by Pliny, of the mode of manufacturing paper from it. According to the latter, one layer of the fibrous coats of the plant was laid across another layer, on a table; they were then connected together by the muddy water of the Nile. Mr. Bruce affirms, that the water of the Nile is in no degree glutinous, and that the strips of papyrus adhere together solely by means of the saccharine matter, with which the juice of the plant is abundantly impregnated. He adds, that the Nile water must have been used simply to dissolve this saccharine matter, perfectly and equally. The cemented fibres were pressed, dried, beat with a mallet, and polished with a tooth, shell, or other smooth and solid substance. The Roman artists, in Alexandria, paid great attention to the operations of washing, beating, glueing, sizing, and polishing. It was sized in the same manner as paper from rags is at present. After the first sizing, it was beat with a hammer; sized the second time, pressed, and then polished. It was then cut into various sizes,—never more, however, according to Pliny, than thirteen inches wide. The same author mentions a great variety of kinds, to each of which a specific name was given.

For at least three hundred years before Christ, this article was exported in large quantities from Egypt. Of the extent and value of the manufactures, in Alexandria, and of the wealth derived from them, we may form some idea from an anecdote of Firmus. This person, the friend and ally of Zenobia, queen of Palmyra, a wealthy merchant, or rather manufacturer of paper and glue, in Alexandria, broke into that city in the middle of the third century, at the head of a furious multitude, "assumed the imperial purple, coined money, published edicts, and raised an army, which he boasted he could maintain from the sole profits of his manufactures." The time when the manufacture of this paper was lost, or superseded, is not known. The possession of Egypt by the Saracens certainly interrupted and diminished its manufacture and export; and it is generally supposed that few, if any, manuscripts on papyrus are of a later date than the eighth or ninth century. About this period, cotton paper was first made:

according to some, in Bucharia; according to others, it had been known long before in China and Persia. There is no doubt, however, that the Arabs, having gained a knowledge of the process, established a manufactory at Ceuta, and afterwards in Spain; and thus introduced it into Europe, about the twelfth century. In the next century this paper was in common use in the eastern empire, and in Sicily. At first it was made of raw cotton; then of old worn-out cotton cloth. While the paper manufactories of Spain were possessed by the Arabians, this article was of a very coarse and inferior quality, in consequence of their employing only mortars, and hand or horse-mills, to reduce the wool or cloth to a pulp; but as soon as their Christian labourers got possession of the paper mills of Toledo and Valencia, they worked them to more advantage, by the use of water-mills, an improved method of grinding and stamping, and by the invention or adoption of moulds. The use of cotton paper became general only in the thirteenth century; and about the middle of the fourteenth, it was almost entirely superseded by paper from linen rags, such as is at present made and used in Europe, and wherever Europeans have settled or colonised. There is much uncertainty respecting the exact time when linen paper was invented, and in what country. It is probable that at first a mixture of cotton and linen rags was employed, especially in those countries, where flax was much and easily cultivated, and where cotton was an article of import, and consequently scarce and dear. Montfaucon, who, on these subjects, is great authority on account of the diligence and extent of his researches, could find no books, either in France or Italy, made of linen paper, before the year 1270. A specimen a little earlier, however, in 1239, has been discovered by De Vaines. In the fourteenth century, the use of this kind of paper became general. Italy seems to have had paper manufactures, for exportation, at this time. In 1380, part of the cargo of a ship, from Genoa to Sluys, in Flanders, which was driven ashore on the coast of England, consisted of twenty-two bales of writing paper. The oldest German paper-mill was erected at Nuremberg, in 1390. There are English manuscripts, on linen paper, so early as 1340 and 1342; but the manufacture was not introduced, according to the general opinion, into

this country, till the year 1588. At that time a German, named Spielman, jeweller to Queen Elizabeth, erected a paper-mill at Dartford, in Kent. This opinion, however, has been controverted on good grounds; as the paper used by Wynkyn de Worde (who may justly be considered as Caxton's real successor) for Bartholomeus, *de proprietatibus rerum*—described by Mr. Dibdin, “as one of the most splendid typographical productions of the early British press,” was made at Hertford by John Tate, junior, who may therefore be deemed the earliest paper-maker in England.* Our principal supply of fine paper, for printing and writing, was from the Continent—(Holland and France chiefly)—till about one hundred years since. At this period two-thirds of the paper used was home made; at present, besides manufacturing sufficient for our own use, we export it to a considerable amount.

The instruments employed to write with, by the ancients, and in the dark and middle ages, of course varied according to the nature of the materials on which they wrote. They may be divided into two kinds: those which acted immediately, and those which acted by the assistance of fluids; of the first kind were the wedge and chisel, for inscriptions on stone, wood, and metal; and the style, for wax tablets. The last has been already mentioned and described; the others need no description. As the style was too sharp for writing on parchment and Egyptian paper, and moreover, was not adapted for holding or conveying a fluid, a species of reed was employed. The Egyptian reeds were preferred, but many others were also used. They were cut in the form of our modern pens, and split in the points; when they became blunt, they were sharpened either with a knife, or on a rough stone. Persons of rank and fortune often wrote with a calamus of silver—something probably like our silver pens. However carefully made or mended, the strokes made by the reed-pens were in general coarse and uneven. Both the styles and the reeds were carefully kept in cases. From ancient authors, as well as from the figures in manuscripts, we learn that they used a sponge to cleanse the reed, and to rub out such letters as were writ-

* John Tate, the younger—

Which late hath in England do make this paper
thyne,

That now in our English, this booke is printed
inne.

Proemium to Bartholomeus, about 1491.

ten by mistake ; a knife for mending the reed ; pumice, for a similar purpose, or to smooth the parchment ; compasses for measuring the distances of the lines ; scissars, for cutting the paper ; a puncher, to point out the beginning and end of each line ; a rule, to draw lines, and divide the sheets into columns ; a glass, containing sand, and another glass filled with water, probably to mix with the ink.

Neither the particular species of calamus, used as pens by the ancients, nor the manner in which they prepared them for this purpose, is known. This is remarkable, since all the places, where these reeds grow wild, have been ascertained, and explored by botanists : with so little success, however, that after a variety of learned as well as scientific conjectures, the calamus of the ancients has not yet found a place in the botanical system of Linneus.

This is yet more remarkable, as reeds are still employed by many eastern nations to write with. Ranwolf, who travelled in the sixteenth century, informs us that canes for pens were sold in the shops of Turkey, small, hollow within, smooth without, and of a brownish colour. Tavernier, Chardin, Tournefort, and other travellers, give a similar account, adding, that the reeds are about the size of large swan quills, and are cut and split in the same manner that we do quills, except that their nib is much larger. The best grow near the Persian Gulph. It is highly probable, that, of whatever species these are, they are of the same as those employed by the ancients ; and that the mode of preparing them, still practised in the east, was followed by the ancients. They are put for some months in a dunghill ; this gives them a dark yellow colour, a fine polish, and the requisite hardness.

Reeds continued to be used even so late as the eighth century, though there can be no doubt that quill pens were known in the middle of the seventh. The earliest author who uses the word *penna* for a writing pen, is Isidorus, who lived in that century ; and towards the latter end of the same century, a Latin sonnet to a pen was written by an Anglo-Saxon author. There is, indeed, in the Medicean Library, a MS. of Virgil, written in the beginning of the 5th century, evidently, from the gradual and regular fineness of the hair strokes, by some instrument as elastic as a quill ; but there is no proof that it was really

written with a quill. Considering that pens from quills were certainly known in the seventh century, they must have come into general use very slowly ; for in 1433, a present of a bundle of quills was sent from Venice by a monk, with a letter, in which he says, “ Shew the bundle to Brother Nicholas, *that he may choose a quill.*”

The composition and the colours of the ink used by the ancients were various. Lamp-black, or the black taken from burnt ivory, and soot from furnaces and baths, according to Pliny and other writers, formed the basis of it : the black liquor of the cuttle fish is also said to have been used as ink, principally on the authority of a metaphorical expression of the poet Persius. But of whatever ingredients it was made, it is certain, from chemical analysis, from the solidity and blackness in the most ancient manuscripts, and from an inkstand found at Herculaneum, in which the ink appears like a thick oil, that the ink then made was much more opaque as well as encaustic than that used at present. Inks, red, purple and blue, and also silver and gold inks, were much employed by the ancients ; the red was made from vermilion, cinnabar, and carmine ; the purple from the *murex* ; one kind of this coloured ink, called the sacred encauster, was set apart for the sole use of the emperors. The subscription at the end of most Greek manuscripts, containing the name of the copyist, and the year, month, day, and sometimes hour, when he finished his labour, were generally written, in the period of the Lower Empire, in purple ink. Golden ink was used by the Greeks much more than by the Romans. The manufacture both of it and silver ink was a distinct and extensive, as well as a lucrative business in the middle ages ; and another distinct business was that of inscribing the titles, capitals or emphatic words, in coloured and gold or silver inks.

CHAPTER III.

Manuscript Books—where written and copied, and by whom—Causes of their Destruction or Loss—their Rarity and high price—Libraries—Schools.

THE foregoing chapter proves very strongly and clearly the obstacles and impediments in the way of the communication and transmission of knowledge

among the ancients, and in the dark and middle ages, in so far as the nature of the materials employed for those purposes is concerned. Masses of stone or marble, metal, or blocks or planks of wood, were too heavy and cumbrous to circulate: in order to learn what the inscriptions on them related to, it was necessary that they should be consulted on the spot. Even after better materials were used, such as tablets, parchment, and the papyrus paper, the difficulties and disadvantages were great. Wax tablets might answer for notes, letters, or very short treatises, but scarcely for writings of any great length. Besides it appears that they were chiefly intended and applied for private use, and never circulated. Parchment never could have been abundant and cheap; and being, at least during the Greek and Roman period, manufactured exclusively or principally, in one place, other parts of the world must have been dependant for their supply upon it. Papyrus paper was cheaper, and in much greater abundance; but for a supply of it, the world was indebted to Egypt alone; and we have seen how this supply was cut off or much diminished when the Saracens obtained possession of that country.

The invention of paper from linen rags succeeded. Dr. Robertson remarks that "it preceded the first dawning of letters and improvement in knowledge towards the close of the eleventh century, and that by means of it, not only the number of manuscripts increased, but the study of the sciences was wonderfully facilitated." So far, indeed, as respects *material*, after this period, the European world was nearly as well off for the means of circulating and transmitting knowledge, as we of the present day are. But we must never lose sight of this fact, that all books were manuscript, written by the hand. How this was accomplished, by whom, and where, form part of the inquiries answered in the present chapter.

If we look at the voluminous works of some of the ancient Fathers or schoolmen, we must be struck with astonishment, when we reflect that copies of them were made by the pen alone, and that their circulation, which seems to have been extensive, could not proceed unless the pen supplied copies. From this single fact, we shall be prepared to expect that the copyists of books must, at all times before the invention of printing, have been very numerous; following a regular business, that afforded

full employment, and required experience and skill, as well as legible and expeditious writing.

This was indeed the case in Greece, Rome, Alexandria, and other places before the Christian era; and after its establishment, in the monasteries, universities, and many other places. At Athens copyists by profession were numerous, and gained a steady and considerable livelihood, as, notwithstanding their number and labours, books were seldom very common. The booksellers of Athens employed them principally to copy books of amusement, most of which were exported to the adjoining countries on the shores of the Mediterranean, and sometimes even to the Greek colonies on the Euxine. In many of these places the business of copying was carried on, and libraries formed. Individuals also employed themselves, occasionally, in copying; and there are instances recorded of some forming their own libraries by copying every book they wished to put into them. Not long after the death of Alexander, the love of science and literature passed from Athens and Greece generally, to Alexandria, where, patronised by the Ptolemies, they flourished vigorously, and for a considerable period seemed to have concentrated themselves. Under the same roof with the celebrated library there, (which is said to have contained at one time 700,000 volumes,) were extensive offices, regularly and completely fitted up for the business of transcribing books: and it was the practice of foreign princes, who wished for copies of books, to maintain copyists in this city. Some of the libraries of Rome, having been destroyed by fire, the Emperor Domitian sent copyists to Alexandria, that he might be able to replace them. This practice continued for some centuries after Domitian, probably till the conquest of Egypt by the Saracens in the middle of the seventh century. The supposed invention of parchment by a king of Pergamus has already been mentioned. This is doubtful; but it is certain that there were extensive manufactories of that article there, almost entirely for the use of the copyists, who were attached to the royal library; this is said to have contained 200,000 books.

We are ignorant of the class of people in ancient Greece, by whom the business of copying was chiefly followed, and of the education they received. But

we know, that, in Rome, the copyists were usually slaves who had received a liberal education. Sometimes they were freedmen, especially those employed by private individuals. The Romans, of rank and consequence, seldom wrote their works, speeches, or even letters themselves;—it was customary for them to dictate to such of their slaves or freedmen, as had been liberally educated, who wrote the MS. in a kind of short hand, or rather in contractions and signs which stood for words and syllables. If the work was intended for publication, it was sent to the booksellers who employed people to copy it fairly in the ordinary characters. This kind of short hand is said to have been invented by Xenophon: it was certainly much extended and improved by the Romans. Tyro, Cicero's freedman, in copying the speeches of Cato, first regulated the method of taking down public harangues—hence their *notæ* took his name, *Notæ Tyronianæ*; they were in use in the tenth and eleventh centuries. Many of the speeches of Cicero and other distinguished statesmen and orators, in the senate or at the forum, were taken down by short-hand writers stationed there. Extreme rapidity of writing was absolutely necessary: this led them to contract words more and more, and to multiply the number of the contractions. In many cases, either for the sake of greater expedition, or of secrecy, "signs or marks which could be currently made with one dash or scratch of the *style*, and without lifting or turning it, came to be employed, instead of those letters which were themselves abbreviations of words. This mode of dictation, and of rapid and abbreviated writing, continued to be practised, at least as late as the fourth century."

This, itself, must have occasioned many errors; but the chief source of errors in the MSS. of the ancients arose from the transcribers employed by the booksellers; these were often ignorant and careless; and complaints on that score are made against them, at a very early period, by Lucilius, in one of his satires, and afterwards by Cicero, Strabo, Martial, and other authors. Strabo informs us that in his time the copyists were so careless that they neglected to compare what they wrote with the exemplar: this, he adds, has been the case in many works copied for sale, at Rome and Alexandria. Individuals seldom copied books for their own use at Rome. Plu-

tarch, indeed, mentions, that Cato the Censor, out of his great anxiety for the education of his son, wrote out, for his use, with his own hand, in large letters, such historical works as he wished him to read; but this is evidently noticed as an extraordinary and unusual action. When a person, from the absence of his scribe or other cause, wrote his letters himself, the extreme rapidity to which he had been accustomed while dictating, unavoidably produced rapid and illegible writing. Cicero, in reply to the complaint of his brother Quintus, that he could not read his letters, tells him that when he wrote himself, he wrote with whatever pen he took up, whether good or bad*.

When the seat of the Roman empire was transferred to Constantinople, that city, for upwards of one thousand years, became the chief seat of literature, and source of books. The liberality and munificence of the emperors in purchasing books, and having them copied, are repeatedly noticed, especially by the Byzantine historians. The manuscripts executed in that city are, in general, beautifully written, and sometimes most splendidly decorated. Though the number of books, and the demand for them in ancient times, were, comparatively, extremely limited, yet, in consequence of the frequent destruction of manuscripts, by common accidents and casualties, the business of copyists must have been very extensive. When the Roman empire began to decline, their destruction was extended and increased in the midst of the turbulence and rapine of the civil contests for the imperial throne. Christianity, properly understood, and exercising its due influence on the understanding and character, must be a warm friend of knowledge and literature: but the spurious Christianity, believed and acted upon in the dark ages, was hostile to some of the noblest productions of the human mind. The temples of the Heathens, with the public libraries they contained, were the objects of vengeance and destruction. The classics were represented as sinful books. In addition to these causes, the capture of Rome in the fifth century,—the devastations committed by Alaric, Genserik, and Attila—and the plunder of Milan, which,

* Quintilian informs us that wax tablets were preferred to paper, when it was necessary or desirable to write with rapidity, as the pen required to be frequently raised from the paper, to be dipped in the ink—an intermission and delay not required when writing with the *style* on tablets.

next to Rome, was the principal repository for books in Italy—greatly reduced the number of manuscripts, or contributed to their mutilation.

Soon after monachism was regularly formed in the sixth century, the monks, especially those under the rules of St. Benedict, which did not prohibit the reading of the classics, turned their attention to procuring and copying manuscripts. Most of these indeed were worthless; but truth obliges us to add, that many of the abbots, and even monks, employed themselves in procuring or copying the choicest works of Greece and Rome*. Cassiodorus, to use the words of Gibbon, “after passing thirty years in the honours of the world, was blessed with an equal term of repose in the devout and studious solitude of Squillace.” To this place, the monastery of Monte Cassino, in Calabria, he carried his own extensive library, which he greatly enlarged by manuscripts bought at a considerable expense in various parts of Italy. His fondness for literature spread among the monks; he encouraged them to copy manuscripts; and even wrote a treatise giving minute directions for copying with correctness and facility. What he did there seems to have been imitated in the other monasteries of that part of Italy; for fifty religious houses there are mentioned, which afterwards principally supplied the libraries of Rome, Venice, Florence, and Milan, with manuscripts. The north of Italy had also similar establishments in monasteries for copying. The monastery of Benedictines at Bobbio, according to Tiraboschi, was celebrated for its cultivation of literature. The same author fixes the systematic commencement of the copying of the classics in the sixth century. The monasteries of the Morea, and of the islands of Eubœa and Crete, but more especially the numerous religious houses which covered the heights and sides of Mount Athos, had always some of their inhabitants employed in the transcription of books.

It was a fixed rule in religious houses that all their inmates should devote a portion of the day to labour. Such as were unable to work at employments

requiring toil and strength, or particular skill, discharged their duty by copying manuscripts; and as it was another rule, that every vacancy should be filled up, as soon as ever it took place, there was always a considerable number of copyists. In every great abbey, an apartment, called the *scriptorium*, was expressly fitted up, as a writing-room. That of St. Alban's abbey was built about 1080, by a Norman, who ordered many volumes to be written there; the exemplars were furnished by Archbishop Lanfranc. Estates and legacies were often bequeathed for the support of the scriptorium, and tithes appropriated for the express purpose of copying books. The transcription of the service books for the choir was intrusted to boys and novices; but the missals and Bibles were ordered to be written by monks of mature age and discretion. Persons qualified by experience and superior learning were appointed to revise every manuscript that came from the scriptorium. The copying of books was executed in other places besides monasteries; sometimes by individuals, from their attachment to literature; but generally by persons who made it their professed employment. Richard of Bury, bishop of Durham, in the thirteenth century, is highly celebrated for his love and encouragement of literature. Besides his libraries, which were numerous in all his palaces, and the books which covered the floor of his common apartments, so that it was no easy matter to approach him, he had a great number of copyists, illuminators, and binders, in his pay. While Chancellor and Treasurer of England, he preferred receiving the usual perquisites of his office in books, instead of the usual new year's gifts and presents. Copyists were found in all the great towns; but were most numerous in such as had universities. It is said that more than six thousand persons at Paris subsisted by copying and illuminating manuscripts, at the time when printing was introduced into that city: they held their privilege under the University. We know little certain of the rate at which copyists were paid; one fact, however, mentioned by Stow, in his ‘Survey of London,’ may be given: In 1433, 66*l.* 13*s.* 4*d.* was paid for transcribing a copy of the works of Nicholas de Lyra, in two volumes, to be chained in the library of the Grey Friars. The usual price of wheat at this time was 5*s.* 4*d.*

* Some of the early fathers employed much of their time in dictating their works. Eusebius gives a curious picture of Origen's mode of composition: he had seven *notarii*, or short-hand writers, who succeeded each other, as they became weary with writing; he had also a regular establishment of men and young women, who wrote beautifully, to copy his works.

the quarter. The wages of a ploughman were one penny a day; of a sawyer, four-pence; and of a stone-cutter, the same*.

The Jews practised the business of copying, and greatly excelled in fine and regular writing. But they confined their labours chiefly to the Old Testament, and their own religious books. In some of the Hebrew manuscripts, executed by them, the letters are so equal, that they seem to have been printed. Even at present, as Mr. Butler remarks, "those who have not seen the rolls used in the synagogues, can have no conception of the exquisite beauty, correctness, and equality, of the writing."

The ancients most commonly wrote only on one side of the parchment or paper, joining the sheets together till their work was entirely written†. The manuscript was then rolled on a cylinder, and called volumen. More than one book was seldom included in a volume. Thus the fifteen books of Ovid's *Metamorphoses*, were in fifteen volumes. The volume being formed, a ball of wood, bone, ivory, &c., was fastened to it on the outside, for ornament and security. This was the most ancient mode of binding books, if so it may be called; and it was followed long after the time of Augustus. The square form, it is said, was first given to books by one of the kings of Pergamus; and it is certain that Julius Cæsar introduced the custom of dividing his letters to the senate, and folding them like our books. Previously to his time, when the consuls wrote to the senate, their letters were rolled up in a *volume*.

* It must be noticed, however, that the illuminations, as well as the ornaments, are probably included in the sum; if not the materials used, at least the workmanship. The works of Nicholas de Lyra seem to have been in high repute, and much honoured. John Whethamstede, abbot of St. Alban's, highly celebrated for his studious employment and love of literature, began, during his abbacy, a grand transcript of the *Postilla* of De Lyra; the ornaments and hand-writing were most splendid. The monk, who mentions it, and who lived after him, when it was still unfinished, exclaims, "God grant that this work may receive, in our days, a happy consummation."

† Pasting the leaves together was a distinct and regular business, carried on by persons called *glutinatores*. In parchment there appear to have been ruled lines to direct the writing; whereas, when writing on paper, which in general was very fine, and almost transparent, a leaf of ruled paper was put beneath. The double paper, mentioned by Pliny, on both sides of which the ancients wrote, was made by pasting two leaves together, in such a manner that the grain of the paper was crossed. The blank side of manuscripts, written on single paper, was sometimes used for rough drafts, or given to children for copy-books—hence the Latin term, *adversaria*,—a note-book, loose papers.

When books were exposed to sale, they were covered with skins, which were rendered smooth by pumice-stone. There was one particular street in Rome, or rather a part of one street, in which the booksellers chiefly lived. In the middle ages books were usually bound by monks. There were also trading binders, called *ligatores*, and persons whose sole business it was to sell covers. White sheep-skin, pasted on a wooden board, sometimes overlapping the leaves, and fastened with a metal cross, was the most common kind of binding. It was deemed the duty of the sacrist in particular to bind and clasp the books. There is a curious charter of Charlemagne's, in 790, to the abbots and monks of Sithin, by which he grants them an unlimited right of hunting, on condition that the skins of the deer they killed should be used in making them gloves and girdles, and covers for their books.

We know little about booksellers in the early part of the dark ages; it is probable, indeed, that for many centuries there was no mode of procuring a copy of a book but by borrowing it, and employing a copyist, to transcribe it. Books, however, as well as other articles, were occasionally sold in the porches of the churches—a place where law meetings were held, and money paid, in order that its payment might be attested, if necessary, by some of the persons there assembled. We may suppose that, for the same reason, books were sold there. This custom seems to have been adopted from a similar one which prevailed in the porticoes of the Greek and Roman temples; for in them goods were sold, and business transacted. We may also trace to the schools which were established there, for children even of the highest rank,—the custom mentioned by Shakspeare, of parish schools being held in the porch, or in a room above the church.

Mr. Hallam says booksellers appear in the latter part of the twelfth century; and quotes Peter of Blois, who mentions a law book which he had bought from a public seller of books. The Jews of Spain about this period were much devoted to literature: Leo Africanus alludes to one Jewish philosopher of Cordova, who, having fallen in love, turned poet: his verses, he adds, were publicly sold in a street in that city, which he calls the Booksellers'-Street; this was about the year 1220. The Greek and Roman

authors adopted rather a singular custom, either to make their works sell after they were actually published, or, more probably, to create a disposition to purchase them when they should come into the hands of the booksellers. We learn from Theophrastus, Juvenal, Pliny, and Tacitus, (particularly from the last,) that a person who wished to bring his writings into notice, hired or borrowed a house, fitted up a room in it, hired forms, and circulated prospectuses, and read his productions before an audience, there and thus collected. Giraldus Cambrensis did the same in the middle ages, in order to make his works known.

Having thus given an account of the manner in which manuscripts were copied and increased in monasteries, &c. we shall now state the causes of their destruction and loss. Till the establishment of Monachism, Christianity, or rather its blind and bigoted professors, were hostile to the classics;—the monasteries in a great degree made up for this by the care they took and the copies they made of them. But one of the causes of their destruction arose, even in the monasteries. The high price of parchment at all times, and its firm and tough texture, tempted and enabled the ancients to erase what had been written on it, (especially, we may suppose, when the contents were of little moment,) in order to use it again for writing upon. A manuscript of this kind was called a Palimpsest. Cicero's self-love took the alarm when his friend Tribatius wrote a letter to him on such parchment. After praising him for his parsimony, he expresses his wonder what he had erased to write such a letter, except it were his law notes; "for I cannot think that you would efface my letter to substitute your own." This practice, in the dark and middle ages, became so prevalent, and was productive of such serious consequences, the most important documents often being destroyed to make way for trash, that the emperors of Germany, in their patents of nobility, with power to create imperial notaries, inserted a clause to the following effect: "On condition that they should not make use of old or erased parchment, but that it should be quite new." The parchment was generally erased: but the monks had also a practice of taking out the writing by a chemical process; and sometimes they peeled off the surface of the parchment. They had recourse to these destructive prac-

tices, not only when they wished to add to their stock of religious works, but also when they wanted to raise a sum of money. In this case, they erased the old writing—paying little regard to its value or rarity—wrote a legend or a psalter, and sold it to the common people. Though it had been long known that the writings of classical authors lay concealed and nearly obliterated beneath the literary rubbish of the monks—and this in numerous cases—for Montfaucon affirms that the greater part of the MSS. he had examined were of this description; yet no steps were taken to recover the original and more valuable writings, till Angelo Mai undertook the task: he has succeeded in recovering several works, the most important of which is a considerable portion of Cicero de Republica that had been erased, and replaced by St. Augustine's Commentary on the Psalms.

The conquest of Egypt by the Saracens, which rendered it almost impracticable to procure papyrus paper, and the consequent high price of parchment, and temptation to erasure, were injurious to literature, not only in this respect, but by the alarm it gave to Europe. This event, their subsequent conquest of Spain, the Norman invasion of France, and the wars by which various parts of Europe were so long and dreadfully afflicted, afforded opportunities and pretexts for plundering the convents and cities, and thus caused the destruction and loss of a great number of valuable manuscripts.

We have already alluded, generally, to the facility with which books can be procured now, and the extreme difficulty even of ascertaining where they were to be found before the invention of printing; when that was ascertained, of gaining access to them, or a loan of them; and the high price at which they were then sold. We shall now give several instances of the truth of this general statement, for, in no other manner, can we so clearly point out and prove the very great advantages that literature and science have derived from the art of printing. The materials employed formerly to write upon—the cumbersome or perishable nature of some—the dearness of others—the length of time necessarily taken up, in writing books with the hand—the few places in which they were accumulated—the difficulty of access to them—their liability to destruction,

—and the practice of the monks' erasing the writing,—have prepared our readers to anticipate their great rarity and value. We must premise, however, that though the facts we shall state will sufficiently prove the high price of manuscript books, yet we cannot gain a precise notion of the subject, because, in many cases, that arose in a great measure from the splendour of their illuminations, and cost of outward workmanship—and, setting aside this consideration, because it is not possible to ascertain exactly the comparative value of money in those ages, and in the present times. Where we have dates, we shall add the price of wheat, and the wages of labour—perhaps the best criteria for ascertaining the purchasing power of money. We shall begin with instances of the rarity of manuscripts, as it is shown in the anxiety to borrow them, and the conditions on which they were lent. We have already mentioned Richard of Bury. In his *Philobiblion* he devotes one entire chapter expressly to an enumeration of the conditions on which books were to be lent to strangers. In 1299, the Bishop of Winchester borrowed a Bible in two volumes folio, from a convent in that city, giving a bond drawn up in a most formal and solemn manner, for its due return. This Bible had been given to the convent by a former bishop, and in consideration of this gift, and 100 marks, the monks founded a daily mass for the soul of the donor. In the same century several Latin Bibles were given to the University of Oxford, on condition that the students who read them should deposit a cautionary pledge. And even after manuscripts were multiplied by the invention of linen paper, it was enacted by the statutes of St. Mary's College, at Oxford, in 1446, that “no scholar shall occupy a book in the library above one hour, or two hours at most, lest others should be hindered from the use of the same.” Money was often lent on the deposit of a book; and there were public chests in the universities, and other places in which the books so deposited were kept. They were often particularly named and described in wills—generally left to a relation or friend, in fee, and for the term of his life, and afterwards to the library of some religious house. “When a book was bought,” observes Mr. Warton, “the affair was of so much importance, that it was customary to assemble persons of

a formal record that they were present on the occasion.” The same author adds, “Even so late as the year 1471, when Louis XI. of France borrowed the works of the Arabian physician Rhasis, from the faculty of medicine at Paris, he not only deposited, by way of pledge, a quantity of valuable plate, but was obliged to procure a nobleman to join with him as surety in a deed, by which he bound himself to return it under a considerable forfeiture.” Long and violent alterations, and even lawsuits, sometimes took place in consequence of the disputed property of a book.

Books were so scarce in Spain in the tenth century, that several monasteries had among them only one copy of the Bible, of Jerome's Epistles, and of several other religious books; and monasteries had frequently only one missal. There are some curious instances given by Lupus, abbot of Ferrieris, of the extreme scarcity of *classical* manuscripts in the middle of the ninth century: he was much devoted to literature; and, from his letters, appears to have been indefatigable in his endeavours to find out such manuscripts, in order to borrow and copy them. In a letter to the Pope he earnestly requests of him a copy of Quintilian, and of a treatise of Cicero; for, he adds, though we have some fragments of them, a complete copy is not to be found in France. In two other of his letters, he requests of a brother abbot the loan of several manuscripts, which he assures him shall be copied and returned as soon as possible by a faithful messenger. Another time he sent a special messenger to borrow a manuscript, promising that he would take very great care of it, and return it by a safe opportunity, and requesting the person who lent it to him, if he were asked to whom he had lent it, to reply, to some near relations of his own, who had been very urgent to borrow it. Another manuscript, which he seems to have prized much, and a loan of which had been so frequently requested, that he thought of *banishing* it somewhere that it might not be destroyed or lost, he tells a friend he may perhaps lend him, when he comes to see him, but that he will not trust it to the messenger who had been sent for it, though a monk, and trustworthy, because he was travelling on foot. We shall extract only one more instance of the scarcity of manuscripts from the letters of Lupus:

he requests a friend to apply in his own name to an abbot of a monastery, to have a copy made of Suetonius; "for," he adds, "in this part of the world, the work is no where to be found."

We possess few facts respecting the price of manuscript books among the ancients. Plato, who seems to have spared no trouble or money in order to enrich his library, especially with philosophical works, paid a hundred minæ, equal to 375*l.*, for three small treatises by Philolaus, the Pythagorean; and, after the death of Speusippus, Plato's disciple, his books were purchased by Aristotle; they were few in number; he paid for them three talents, about 675*l.* It is said that St. Jerome nearly ruined himself by the purchase of religious works alone. And, though, at this period, we have no specific prices of works, yet, from the account already given of their rarity, of the difficulty of ascertaining even where they were to be found, and of the extreme reluctance, in many instances, even to lend them, we may easily credit the general fact, that persons of a moderate fortune could not afford to purchase them, and that, by the rich even, they could seldom be procured without the payment of sums that required the sacrifice of some luxuries. The mere money paid for them, in the dark ages, whenever a person distinguished himself for his love of literature, was seldom the sole or the principal expense. It was often necessary to send to a great distance; to spend much time in finding out where they were. In the ninth century, an English bishop was obliged to make five journeys to Rome, principally in order to purchase books; for one of his books thus procured, Alfred gave him an estate of eight hides of land, or as much land as eight ploughs could till. About the period of the invention of cotton paper, 1174, the homilies of St. Bede and St. Augustine's Psalter, were bought by a prior in Winchester, from the monks of Dorchester, in Oxfordshire, for twelve measures of barley, and a pall richly embroidered in silver. Stow informs us, that in 1274, a Bible, in nine volumes, fairly written, with a gloss or comment, sold for fifty marks, 33*l.* 6*s.* 8*d.*: about this time the price of wheat averaged about 3*s.* 4*d.* a quarter; a labourer's wages were 1*d.* a day; a harvest man's, 2*d.* In a blank page of Comestor's Scholastic History, deposited in the British Museum, it is

stated, that this MS. was taken from the King of France, at the battle of Poitiers: it was afterwards purchased by the Earl of Salisbury for a hundred marks, and directed, by the last will of his Countess, to be sold for forty livres. One hundred marks were equivalent to 66*l.* 13*s.* 4*d.* This sum was exactly the pay of Henry Percy, keeper of Berwick Castle, in 1359; at this time the king's surgeon's pay was 5*l.* 13*s.* 4*d.* per annum, and one shilling a day beside. Master carpenters had four-pence a day, their servants two-pence; the price of wheat about 6*s.* 8*d.* a quarter. At the beginning of the century, some books were bequeathed to Merton College, Oxford, of which the following are the names and valuation: A Scholastic History, 20*s.*; a Concordantia, 10*s.*; the four greater Prophets, with glosses, 5*s.*; a Psalter, with glosses, 10*s.*; St. Austin, on Genesis, 10*s.* About the year 1400, a copy of the Roman de la Rou was sold before the palace gate at Paris, for forty crowns, or 33*l.* 6*s.* 6*d.* The Countess of Anjou paid for a copy of the Homilies of Bishop Haiman, two hundred sheep, five quarters of wheat, five quarters of barley, and five quarters of millet. On the conquest of Paris, in 1425, the Duke of Bedford sent the royal library to England: it consisted of only eight hundred and fifty-three volumes, but it was valued at two thousand two hundred and twenty-three livres, rather more than the same number of pounds sterling. At this time the price of a cow was about 8*s.*, of a horse about 20*s.* And the pension paid by the English Government to the Earl of Wallachia, who had been driven out of his territories by the Turks, was 26*l.* 13*s.* 4*d.* per annum. This library is thought to have formed the foundation of the celebrated library of Humphrey Duke of Gloucester. This nobleman was one of the most zealous and liberal patrons of literature and learned men of his age; he invited learned foreigners into England, whom he retained in his service, employing them in copying and translating from Greek into Latin; and he had constantly persons in his pay collecting valuable manuscripts for him. He gave to the University of Oxford, about the year 1440, six hundred volumes, one hundred and twenty of which alone were valued at more than 1000*l.* Wheat about this period might be exported, when not above 6*s.* 8*d.* a quarter. In the middle of this century,

a nobleman of Bologne, desirous of purchasing a copy of Livy, which had been transcribed by the celebrated Poggio, was obliged to sell an estate for this purpose, and with the purchase money, Poggio bought another estate, near Florence. Archbishop Usher tells us, from the Register of William Alnwick, Bishop of Norwich, that in 1429, the price of one of Wickliffe's English New Testaments, was four marks and forty pence, or 2*l.* 16*s.* 8*d.*, which, the Archbishop observed, "is as much as will now (about 1630) buy forty new Testaments." Afterwards copies were multiplied so much, in consequence of the increase of Wickliffe's disciples, that the price fell to 20*s.*, when the price of a Porteus or breviary was six marks. In 1468, 1*l.* 6*s.* 8*d.* was lent on the security of a MS. of Petrus Comestor (a work already mentioned), deposited as a pledge. Wheat at this time was 6*s.* 8*d.* a quarter; beef, 10*s.* the carcase; mutton, 1*s.* 4*d.*; veal, 2*s.* 6*d.*; pork, 2*s.*; ale, 1½*d.* a gallon. When Faust sold his Bibles at Paris (about 1460), the price of a parchment copy was reduced from four or five hundred to sixty, fifty, and forty crowns*. Other instances might be given of the extreme rarity and enormous price of books, in every country, and at all periods, previous to the invention of printing: but these are amply sufficient to prove the facilities which that discovery has given to the spread of literature and science, by removing this most serious and formidable impediment.

Had not sovereigns and rich individuals formed libraries to which men of learning had access, knowledge could not have advanced, even in the very slow manner in which it did; as they, in general, were too poor to purchase books, and had not sufficient leisure to find out where they were to be bought, or, while dispersed, where they were to be met with. The most celebrated libraries in ancient times, which may fairly be regarded as having contained a very large portion of the books then existing, were, 1. The Alexandrian Library

founded by Ptolemy Soter, who reigned about 300 B. C. His successors enlarged it; one of them seized all books imported into Egypt, giving copies of them, made by his orders, and at his expense, to the proprietors: in a similar manner he got from the Athenians, the originals of Æschylus, Sophocles, and Euripides, returning them only copies, and giving them fifteen talents in exchange, upwards of £3000. This library suffered much during the first Alexandrine war; and was afterwards totally destroyed by the Calif Omar in A. D. 642. 2. The library founded by Pistratus at Athens. This and the other libraries of this city, continued to flourish till after the time of Justinian. 3. Julius Cæsar projected a library at Rome, which was to be, strictly speaking, public; but his assassination frustrated the design: and the first public library was erected by Asinius Pollio, in the reign of Augustus. This emperor also founded two public libraries, the Octavian and the Palatine—the latter survived till the time of Gregory the Great, about the end of the sixth century. 4. But the most extensive and splendid of the libraries at Rome, was the Ulpian, founded by Trajan: it is believed that, at the suggestion of Pliny the younger, this emperor commanded all the books that were found in the conquered cities to be placed in this library. Most of the principal cities throughout the Roman empire, at this time, had public libraries. The desolation of the western empire by the barbarians destroyed or dispersed most of the books in them, so that, in this part of the world, after this period, and during the dark ages, monasteries almost exclusively possessed libraries. In the eastern empire it was different: both Constantinople and Alexandria preserved theirs, till the Turks obtained possession of these cities. The library of the former was founded by Constantine, and enlarged by succeeding emperors, especially by Julian and Theodosius the younger.

Dr. Henry, after mentioning Alfred's purchase of one book, for an estate of eight hides of land, observes—"At this rate none but kings, bishops, and abbots, could be possessed of any books: which is the reason that there were then no schools but in kings' palaces, bishops' sees, or monasteries!". It is generally believed that there were no public schools

* The supplying of books for divine service—Missal—Porteus, or Breviary—Manual, &c. originally fell upon the rector; as they were all written, and some of them beautifully illuminated, it was a very expensive duty. On the institution of vicars, the parishioners agreed to supply some of the books: Among them were the Antiphoners, two of which, in 1424, cost twenty-six marks, or 17*l.* 6*s.* 8*d.* The vicars were at the expense of binding and preserving the books; also of finding the Porteus; the price of this was about five or six marks.

in Rome till three hundred years after its foundation; parents teaching their children the little they knew. Even after the establishment of schools, private education at home was common. The teachers were generally slaves or freed men; and a slave always accompanied the boys of rank to school, carrying a box, containing books, paper, tablets, and instruments for writing. In learning their letters they were instructed by another boy, or usher*. Homer was taught to the Greek boys, and Virgil to the Roman. They were moved to different schools, according to their proficiency: being taught to read and write in one, and arithmetic, by *calculi* or counters, in a separate school. The porticoes of temples were common places for schools. In an ancient bas-relief, published by Winkelman, the education of two children of rank is represented: one about twelve years old holds a double tablet, long, and fastened by a hinge. The master, half naked, like the ancient philosophers, holds a roll (volumen), and is addressing the child. Some of the table-books must have been large; for, in Plautus, a school-boy, seventeen years old, is represented as breaking his master's head with one. From the origin of monasteries till the close of the tenth century, there were no schools in Europe, except those belonging to monasteries or episcopal churches. At the beginning of the eleventh century, they were opened in most of the cities of Italy and France, by qualified persons among both the laity and clergy. But though their general introduction and establishment must be assigned to this period, yet it is certain that Charlemagne founded several in his dominions; and long before his reign St. Augustin was an usher in a school. His business was to preside over the dress, morals, gait, &c., of his pupils, and to sit with them in a kind of anti-school, separated from the principal school by a curtain. Here they said their lessons to the usher, before they went to the master; when the curtain was drawn back. In the middle ages, there were distinct schools for clerks, for laymen, and for girls; and two hundred children at a time are represented as learning their letters. Itinerant schoolmasters were also common. The whole of the education, however, even of those of the highest

ranks, seldom went beyond reading and writing, and the more simple rules of arithmetic. Parochial grammar schools, in villages, were established in the fifteenth century. The following account of their origin is given by Mr. Fosbroke: "To prevent the growth of Wickliffism, it had been made penal to put children to private teachers; and the consequent incessant influx to only a few schools, rendered, in 1447, grammar learning so low, that several clergymen in London petitioned parliament for leave to set up schools in their respective churches, in order to check seminaries, conducted by illiterate men. Thus commenced grammar schools, properly so called†."

CHAPTER IV.

Restorers of Literature, and Discoverers of Manuscripts, in the Middle Ages—First steps towards the Art of Printing—Invention of that Art—Early History—Introduction of it into the Kingdoms of Continental Europe.

It is generally the fate of discoveries that are made prematurely, and under unfavourable circumstances, either to be strangled in their birth, or to struggle through a very short and useless existence. Had the art of printing been invented during the deepest ignorance and gloom of the dark ages, its value and importance would not have been appreciated, and it might gradually have sunk into neglect and total oblivion. Books were indeed excessively rare and dear; but very few sought for them, for few had the curiosity or ability to read, and fewer the money to purchase them. After the tenth century, literature began to revive; paper from linen rags was invented; a tendency to commerce appeared. This caused a gradual accumulation of capital, and rendered necessary some attention to learning. Then succeeded the agitation of men's minds, which preceded the Reformation, and which could not be set at rest but by reading and inquiry. The monks themselves, so far as they contributed to the perusal of legends and miraculous stories, were the unconscious instruments of that spreading desire for knowledge, which ushered in the in-

* See Dodwell's *Greeces*, for further proofs of a system of education in ancient Greece, similar to that of Bell and Lancaster. (Vol. ii. p. 37.)

† "It was not till the reign of Henry IV. (1399—1413) that villeins, farmers, and mechanics, were permitted, by law, to put their children to school (7 Henry IV. chap. 17;) and long after that they dared not to educate a son for the church, without a license from their lord."—(Henry's England, book v. chap. 4. sect. 1.)

vention of printing, and which issued in the Reformation itself.

We have already named several individuals who, even in the darkest ages, spent much of their time or money, in endeavouring to discover and procure manuscripts. Long before the fall of Constantinople, the love of classical literature had been gradually reviving;—that event increased it, by compelling a great number of learned Greeks to seek a shelter in Italy. But it could not be gratified, till the manuscripts, which lay buried and neglected, were brought to light. As the labours of those who may justly be called the restorers of classical literature, were mainly instrumental in producing that state of things, which turned men's minds towards the invention of printing, and nourished it to maturity, when invented, we shall give a short account of the most celebrated of them, before we proceed to the invention itself.

Silvester II., before he became pope, which was in the last year of the tenth century, had been indefatigable in acquiring and communicating learning, and these qualities distinguished him during his whole life. In order to obtain a knowledge of the sciences and manuscripts, he visited Spain, and caused Italy, and the countries beyond the Alps, to be diligently explored. The Crusades interrupted the spread of literature; but in the fourteenth century, Petrarch roused his countrymen from their slumber—inspired a general love of literature—nourished and rewarded it by his own productions; and rescued the classics from the dungeons, where they had been hitherto shut up from the light and instruction of mankind. "He never passed an old convent, without searching its library, or knew of a friend travelling into those quarters, where he supposed books to be concealed, without entreaties to procure for him some classical manuscripts." Had not such a man appeared at this time, it is probable that most of the classical manuscripts would have been totally lost; so that in this case, he might have excited among his countrymen the love of literature, without being able to gratify or nourish it. Boccaccio, who shares with Petrarch the glory of having enriched the Italian language with its most perfect beauties, at the very moment when it may be said to have begun to exist, shares also with him the glory of being a zealous and successful restorer of classical manuscripts and literature. No man, during

the first half of the fifteenth century, devoted himself with so much industry to this search, or made so good a use of them, when discovered, as Poggio. No difficulty, no want of assistance, no expense or labour discouraged him. His youth was spent in travelling to attain what seemed to be the sole object of his life; and when he became secretary to the Popes, eight of whom employed him in succession, he used the influence and opportunities his situation gave him, for the promotion of literature and the collecting of manuscripts at Rome. To these names we shall add only those of the Medici family; Emanuel Chrysolas, who was one of the first who introduced a knowledge of the Greek language and literature into Italy; and Theodore Gaza.

Europe seemed now ripe for the art of printing, and to require it. Persons of high rank felt a more general and powerful love of literature than they had ever experienced before. The minds of the great mass of the people too were now beginning to work; but materials were wanting on which they might work and by which they might work. At this important crisis, the art of printing was discovered, and an impulse given to knowledge which now no power, no conceivable combination of circumstances can possibly destroy.

Playing-cards, which were known and used in Germany at the very beginning of the fourteenth century, were first painted; but towards the end of that century a method of printing them by blocks was discovered. This was the first step towards the art of printing. The manufacturers of playing-cards naturally turned this discovery of printing from blocks to advantage and profit by engraving the images of saints—for which there was a regular and great demand—on wood. This may be considered as the second step. Books of Images were of two kinds: those without any text, and those with text; but even in the first words and sentences are interspersed. A wood cut of St. Christopher, the oldest known of the first kind, is now in the collection of Earl Spencer: at the foot of it are three short sentences, engraved and printed together with the figure, with the date 1423. The most celebrated of the books of images without text is the *Biblia Pauperum*. It consists of forty plates of figures and images, with sentences relating to them, the whole engraven on wood on one side of the paper. It seems to be a kind

of catechism of the Bible, and was sold at a low price to young persons and the common people; it has no date. Another work, a system of artificial memory, engraven on wood, in the same manner as the *Biblia Pauperum*, has the text separate from the figures; fifteen plates of each. The characters are very large, resembling those on ancient monuments. But, "of all the ancient books of images," observes Mr. Horne, "which preceded the invention of printing, the *Speculum Salutis* is confessedly the most perfect both in its design and execution." It is a collection of historical passages from the Scriptures, with a few from profane history. It was very popular, frequently reprinted, and translated into German, Flemish, and other languages.

The change and improvement from the manner in which these books of images were executed to moveable wooden characters, seems obvious and not difficult; but there is no evidence that these were ever used, except in the capital letters of some early printed books. It has been, indeed, contended strenuously by several antiquarians, that Lewis Coster, of Haarlem, invented and used them; that he, therefore, was the original inventor of the art of printing, and that Haarlem was the place where the invention was first put into practice. But it is now proved, that this opinion is without foundation; that wooden types were never used; that the claims of Coster of Haarlem cannot stand the test of accurate investigation; and that the art of printing, as at present practised, with moveable metal types, was discovered by John Gutenberg, of Mayence, about the year 1438.

Three years before this, Gutenberg entered into a partnership with three citizens of Strasburg, binding himself to disclose a secret which would enrich them all. One of the partners dying, and some of the most important implements having been stolen from the workshop, a lawsuit took place. In the course of this lawsuit, five witnesses, among whom was Gutenberg's confidential servant, proved that he (Gutenberg) was the first who practised the art of printing with moveable types. The result was a dissolution of partnership. The whole proceedings on this trial are in existence, and have been published in the original German.

After this, Gutenberg returned, poor and disappointed, but not dispirited, to his native city, Mayence. It is doubtful whether he had hitherto really printed

any thing. Heineken, who has investigated this subject with great diligence and labour, is of opinion that he had ruined both himself and his partners, without being able to produce a single clean and legible leaf. However that may be, in 1450, he entered into partnership at Mayence, with John Fust; they seem at first to have gone back to wooden blocks, and then to have tried moveable wooden letters and moveable metal ones, formed with a knife: all without effect. This partnership was also unfortunate; for, in consequence of the great expense incurred by Fust (who supplied the capital), in printing a Latin Bible, he commenced a suit against Gutenberg; the latter was obliged to give up his apparatus to Fust. It is not certain whether, during their partnership, they found out the art of casting characters in metal, which they had previously been obliged to cut with the hand; or whether this great improvement was made by Schoeffer, an ingenious man, who assisted them at this time, and was afterwards taken into partnership by Fust. The general opinion is, that the idea of punches and matrices for casting metal types originated with Schoeffer. He certainly improved this method, by rendering it more certain, easy, and expeditious.

Gutenberg, not discouraged by this second misfortune, established a new printing office, until 1465, when he obtained a situation, with a good salary, under the Elector Adolphus. In the mean time, Fust, in conjunction with Schoeffer, continued printing. In August, 1457, they published a beautiful edition of the Psalms; one of the earliest books yet discovered which has the name of the place and printers, with the date annexed. In 1462, the city of Mayence was taken by the Elector Adolphus, when the partners suffered much; and their workmen dispersing themselves, the art of printing was thus spread over Europe. Their masters, however, still carried on the business in Mayence. Fust's name appears to a Treatise of Cicero printed in 1466; all subsequent books have Schoeffer's name alone; he continued to print till his death in 1502, when he was succeeded by his son*.

* In order to give a clearer idea of the progress of the art in its infancy, we shall subjoin short notices of some of the works executed by Gutenberg and his partners. The two earliest works are supposed to be an alphabet, engraven on a plate for the use of schools, and some doctrinal tracts. Then followed two editions of Donatus on the parts of speech: the first from wooden blocks, which are still in the Royal Library of Paris; the second with moveable types

The date and cause of the dispersion of Fust and Schoeffer's workmen, and the consequent spreading of the art of printing over the continent of Europe, have been already stated. The respective periods of its first introduction into the principal continental kingdoms, together with some interesting anecdotes, we shall now mention. The first book printed at Rome was Cicero's Letters to his friend, in 1457. The printers were Conrad Sweynheim, and Arnold Pannartz. They left Germany for Italy in 1465, having served their apprenticeship to Fust and his partner. At first they settled at the monastery of Lubeaco, in the neighbourhood of Rome, where they printed the works of Lactantius, being encouraged and assisted by the monks, who were Benedictines, and very rich and learned. On their removal to Rome they were equally patronised by John Andreas the Pope's librarian. He not only supplied them with the most valuable manuscripts from the Vatican, but prepared the copy, corrected the proofs, prefixed dedications, prefaces, &c. Notwithstanding

on vellum. The celebrated first edition of the Bible from metal types; remarkable for the texture of the paper, excellence of execution, and blackness and lustre of the ink; supposed to have been printed in 1455. The expense of printing it gave rise to the lawsuit between Guttenberg and Fust. Like all other very ancient printed books, it has no title or paging, and many of the initial letters are painted by illumination. In 1456, Guttenberg printed an almanack, the first ever printed, and the very first book with a certain date. In 1457, Fust and Schoeffer printed their celebrated Psalter. In a colophon, (the sentence frequently added at the conclusion of a work by the early printers,) the invention of the art of printing is announced to the public in boasting, though by no means unreasonable or unwarranted terms. This Psalter is printed on vellum; the psalms in larger letters than the hymns, all uncommonly black. The capital letters are cut in wood; the largest of these, which are black, red, and blue, it is supposed must have passed three times through the press. Not more than six or seven copies are known to be in existence. The first edition of the Latin Bible, with a date, at Mayence, by Fust and Schoeffer, in 1462. Fust sold by himself, or by his agents, copies of this Bible at Paris, as manuscript, and supplied them so regularly and abundantly as to lower the price. From the facility with which he supplied them, and the uniformity of the copies, he was taken up as a necromancer; hence arose the story of the Devil and Dr. Faustus. The books were seized either on this occasion, or afterwards, in virtue of the *droit d'aubaine*, on the death of his agent, but they were restored by order of Louis XI. In 1465 Fust and Schoeffer published an edition of Cicero's Offices, "the first tribute of the new art to polite literature." After the death of Fust, about 1466, Schoeffer carried on the printing business alone for thirty-five or thirty-six years, in the course of which period he executed a great many works. By far the most important of these was an edition of Justinian's Institutes, the date is not known. In 1484 he printed an Herbal in 4to., with figures of plants; and in 1485, a folio edition of it. In 1490 he printed a third edition of the Mentz Psalter. In the preceding editions the full chant was written, in this it is printed. Schoeffer terminated his labours by a fourth edition of the Psalter in 1502.

the encouragement they met with, they were obliged to petition the Pope for relief and assistance in 1472, having printed during the seven previous years, twenty-eight different works, some of them very large and expensive, the impressions of which amounted to 12,475 volumes. In this petition, after stating that they were the first who introduced this art into his holiness' territories, and the number of volumes printed by them, they added that their house was full of books in quires, but destitute of the necessaries of life. As they contrived to print for some time afterwards, it is supposed that assistance was granted them.

The first book printed at Venice was also Cicero's Epistles; the printer, John de Spira, the date 1469. He and his brother, also a printer, natives of Germany, surpassed all their predecessors in the beauty of their types and the elegance of their impressions; they employed two very learned men as correctors of their press. The Spiras were the first who applied the art on a regular and extensive scale to the publication of the classics. By an order of the senate, 1469, the exclusive privilege of printing the letters of Cicero and Pliny was granted to them for five years, in consequence of the beauty of their impressions. Venice became celebrated for its types, and supplied the printers of Rome with them. One of the best printers of the fifteenth century was settled at Nuremberg, his name was Coburger; he was styled by his contemporaries the prince of booksellers and printers: he employed daily twenty-four presses and one hundred men, besides furnishing work to the printers of Basle, Paris, and Lyons. His books, which relate chiefly to the canon law and theology, are distinguished for the blackness of the ink, and the squareness and fineness of the type, as well as the good quality of the paper, and the excellence of the press-work.

The first work from the Paris press is dated 1470; the printers were three Germans from Colmar. On the establishment of their office, the copyists, finding their business much injured, presented a memorial to the parliament; but Lewis XI. interfered in their behalf.

Lewis, who, amidst all his faults, was an encourager of literature, is said to have sent Nicolas Jenson, a native of France, to Mayence, to learn the art of printing, in 1470. But, owing to civil dissensions in his kingdom, Jenson settled at Venice, where he printed from

1470 to 1480. He introduced great improvements ; planning and reducing to their present proportions the characters called *roman*, so that his works are justly deemed very highly finished in every respect.

The first book printed at Naples, was in 1471. Two years afterwards, printing was introduced into Buda, in Hungary. The first work printed at Basle, in Switzerland, is dated 1474. The same year appeared a book, printed by the monks of a convent in the Rhingau. They were of the Augustine order, and by their rules, they were obliged to copy the works of the Fathers and ecclesiastical writers as part of their regular duty, and likewise as their chief means of subsistence. The discovery of printing having deprived them of these means, they immediately applied themselves to learn and practise that art, and were thus enabled at the same time to support themselves and fulfil the spirit of their rule.

The first work printed in Bohemia is dated 1476, but the printer's name is not known. John Snell, a German printer, invited into Sweden by the administrator Stein Sture, printed the first book in that kingdom in 1483. John Mathison, a Swede, who was patronised by the Bishop of Holun in Iceland, introduced the art of printing into that remote and desolate island, in the year 1531. The first book printed in Portugal is dated 1489 ; it is a commentary on the Pentateuch in Hebrew, and from the printers' names, they appear to have been Jews.

In 1493 the art was introduced into Denmark, when a grammatical treatise was published. The first treatise relating to commerce seems to have been published at Provins, in 1496. Three years afterwards the Catholicon was printed in Bretagne, or Breton, French, and Latin.

The first work printed in Moravia, is dated 1500 : it is a treatise against the Waldenses. In 1560, a Russian merchant, having bought a quantity of types, printing press, &c., introduced the art into Moscow. The mob, however, at the instigation, it is supposed, of the priests, destroyed the office, press, and type.

The most early printed books were principally of the folio and quarto size. In 1465 the old Gothic character was changed for a kind of semi-Gothic, in the Lactantius, printed at Lubeaco. The roman type was first used at Rome in 1467, and soon afterwards brought to perfection by Nicolas Jenson. The

celebrated printer, Aldus Manutius, introduced towards the end of the fifteenth century, the *italic*. Aldus was extremely careful in correcting his proofs, so that he never printed more than two sheets a week. He printed a great number of Latin and Italian books in 8vo., which are executed with great elegance and correctness. In the edition of Cicero, printed at Mayence, 1465, a few sentences in Greek types are given. The same year, Sweynheim and Pannartz, having procured a very small quantity of Greek types, began to print the Lactantius, already mentioned ; before the work was completed, however, they seem to have procured a further supply, for in the first part of the work a blank is left wherever a long sentence occurs, whereas, after the middle of the work, all the Greek quotations are printed. The first book, entirely Greek, is supposed to be the Greek grammar of Lascaris, printed at Milan in 1476. Aldus, in addition to his other merits, is justly celebrated for having first produced beautiful and correct editions of Greek works. Printing in Hebrew was first executed by Soncino, in Milan, in 1482. The Pentateuch was printed there this year. The first Polyglott bible, in Hebrew, Arabic, Chaldee, Greek, and Latin, was printed at Genoa in 1516, by Pormo. Aldus seems to have planned, and even to have begun to execute, a Polyglott bible, in Hebrew, Greek, and Latin. There is one specimen page, in folio, preserved in the Royal Library at Paris.

Till 1476 or 1480, the titles of books were printed on separate leaves. In the infancy of the art, blanks were left for initial letters, which were afterwards filled up by the illuminators ; but this trade did not long survive the invention of printing. Divisions into sentences were seldom made ; the orthography varied much ; punctuation was confined to the colon, period, and an oblique stroke. This is supposed to have arisen from a desire to imitate manuscripts as near as possible. Aldus added the semicolon ; notes of interrogation and admiration were not used till long afterwards. The paper was very thick and solid ; this, and the frequent use of vellum, were the result of the desire to imitate manuscripts. It is known, besides, that at that period the disproportion between the price of paper and vellum was not nearly so great as at present. Very early printed books are also dis-

tinguished by their numerous and difficult abbreviations, by the absence of signatures and catch-words, and of the printer's name, place, and date; when inserted, they are at the end of the book. Signatures, however, were used in 1472 and 1474; and catch-words, which appear in manuscripts of the eleventh century, were first used in printing, by Spira, at Venice, about the same time. They are at present little used, either on the continent or in Britain.

CHAPTER V.

Life of WILLIAM CAXTON.

WILLIAM CAXTON was born in the Weald of Kent, as he himself tells us; in what part of it, and in what year, is not known, but it is supposed about the year 1412. Of the rank or employment of his parents we are entirely ignorant. His father came to London, and resided with his son, in Westminster, at the time of his greatest fame, as a printer. There he died at a very advanced age, in 1480. It may be presumed that his parents were in good circumstances from the education they gave him, and the business to which they put him. At this period learning of all kinds was at a much lower ebb in England than in most of the continental states of Europe; in consequence, principally, of the civil wars in which the nation was embroiled, the habits of restlessness thus produced, and the constant pre-occupation of men's time and thoughts in promoting the cause they espoused, and in protecting their lives and property. Under these circumstances the most plain and common education was often neglected. Caxton's parents, however, performed their duty to him: "I am bounden," he says, "to pray for my father and mother's souls, that, in my youth, sent me to school, by which, by the sufferance of God, I get my living, I hope truly." When he was about fifteen or sixteen, he was put apprentice to William Large, a considerable mercer, of the city of London, and afterwards sheriff and mayor. The name, *merc*er, was given at this time to general merchants, trading in all kinds of goods. After he had served his apprenticeship, Caxton took up his freedom in the Mercers' Company, and became a citizen of London. That he conducted himself, while an apprentice, to the satisfaction of his master, may be presumed from the circumstance, that he was left in his will, in 1441, a legacy of

twenty marks, or 13*l.* 6*s.* 8*d.*, a considerable sum in those days, when the usual price of wheat was 5*s.* 4*d.* a quarter; malt, 4*s.* the quarter; and a pair of plough oxen could be purchased for about 1*l.* 3*s.*

In what manner he employed himself from the expiration of his apprenticeship, till he went abroad, is not known; but that he did not go abroad till some years afterwards, a comparison of dates will render apparent. He was born about 1412; he could not have been more than sixteen when put apprentice; so that his apprenticeship of seven years must have expired in the year 1435. The opinion, therefore, that he went into the Low Countries on the termination of his apprenticeship is not correct, as he did not leave England till 1442, the year after he received the legacy.

In what capacity or for what purpose he left England, we are ignorant;—probably as a merchant, either on his own account, or as agent for some other merchant. He informs us that he continued for the most part in the countries of Brabant, Flanders, Holland, and Zealand,—all at this time belonging to the Duke of Burgundy, one of the most powerful princes in this part of Europe, whose friendship and alliance were anxiously sought for by the kings of France and England.

In the year 1464, he was appointed by Edward IV. ambassador, along with Richard Whetenhall, "to continue and confirm a treaty of commerce with Philip, Duke of Burgundy, or, if necessary, to form a new treaty." In the commission, which is given in Rymer's *Fœdera*, they are styled ambassadors and special deputies; and full powers to treat are given to either, or both of them. The Low Countries were at this period the great mart of Europe, in which were to be purchased, at all times, and in great abundance, the produce and manufactures of most parts of the world. Treaties of commerce between England and them were frequently made and broken; and it required not only considerable knowledge in commercial affairs, and in the relative commercial wants and advantages of the two countries, but also a sound judgment, and much circumspection and prudence, to make or renew them. Merchants seem to have been generally employed on these occasions; and we may reasonably conjecture that Caxton's character and experience,

as a merchant, and his long residence in the Netherlands, pointed him out as a fit person for this embassy.

Philip, Duke of Burgundy, was the most magnificent prince of his age: his court, one of the most polished; and his fondness for the expiring customs of chivalry, and for literature, equally great and influential. In the prologue to a book of the whole life of Jason, translated under the protection of King Edward, Caxton thus describes the chamber of this prince, in his castle of Hesdein, in Artois. It ought to be premised, that Philip had instituted the order of the Knights of the Golden Fleece. "But, well wote I, that the noble Duke Philip, first founder of this said order, did do maken a chamber in the castle of Hesdein, wherein was craftily and curiously depainted, the conquest of the Golden Fleece, by the said Jason; in which chamber I have been, and seen the said history so depainted; and in remembrance of Medea, and of her cunning and science, he had do make in the said chamber, by subtil engine, that, when he would, it should seem that it lightened, and after, thunder, snow, and rain, and all within the said chamber, as oftimes, and when it should please him, which was all made for his singular pleasure."

During his residence in the Low Countries he acquired or perfected his knowledge of the French language, gained some acquaintance with the Flemish or Dutch (as appears by his translation of *Reynard the Fox* from the latter); imbibed his taste for literature, and passion for romance, and made himself master of the art of printing, "at great charge and dispense," as he informs us. His passion for romance he most probably derived from his intimacy with Raoul le Fevre, chaplain to the Duke of Burgundy, and with Henry Boulonger, canon of Lausanne. The former of these persons was the author of the *Romance of Jason*, and of the *Recueil of the Histories of Troy*, both of which were afterwards translated and printed by Caxton; and at the instance of the latter he translated, compiled, and printed, 'The History and Lyf of the most Noble and Christian Prince Charles the Great, Kyng of Vienna and Emperor of Rome.'

In June, 1467, Philip Duke of Burgundy died, and was succeeded by his son, Charles. A treaty of marriage between this prince and Margaret, sister to

Edward IV., was at this time negotiating, but was interrupted by the sudden death of Philip: the marriage, however, took place a year afterwards, on the 3d of June, 1468. Caxton was appointed to a situation in the household of the duchess, soon after her arrival in the Netherlands; but in what capacity, or with what salary, is not known. He seems, however, to have been on familiar terms with Margaret, and not to have been much occupied. For he informs us, that in 1469 he began translating the *Histories of Troy*, of his friend Raoul le Fevre, in Bruges, continued it at Ghent, and finished it at Cologne; he, however, laid the translation aside for some time. "In 1469," he says, "having no great charge or occupation, and wishing to eschew sloth and idleness—which is mother and nourisher of vices—having good leisure, being at Cologne, I set about finishing the translation. When, however, I remembered my simpleness and imperfections in French and English, I fell in despair of my works, and after I had written 5 or 6 quairs, purposed no more to have continued therein; and the quairs laid apart; and in two years after laboured no more in this work: till in a time it fortun'd Lady Margaret sent for me to speak with her good Grace of divers matters, among the which I let her have knowledge of the foresaid beginning. "The Duchess," he adds, "found default in myne English, which she commanded me to amend, and to continue and make an end of the residue, which command I durst not disobey." The Duchess rewarded him liberally for his labour. In his prologue and epilogue to this work, he mentions that his eyes are dimmed with over much looking on the white paper; that his courage was not so prone and ready to labour as it had been; and that age was creeping on him daily, and enfeebling all his body;—that he had learnt and practised at great charge and dispense to ordain the said book in print; and not written with pen and ink, as other books be.

The translation of the *Recueil* was published at Cologne in 1471; but he had printed there, at least, two works before that; the original of the *Recueil*—a work unknown to German bibliographers—in 1464-7; and the oration of John Russel, on Charles, Duke of Burgundy, being created a knight of the garter in 1469. The existence of this was unknown till the year 1807, when it was discovered at the sale of Mr.

Brand's books. No other book printed by Caxton at Cologne has been discovered; but that he printed there Bartholomeus de Proprietatibus Rerum, is plain from Wynkyn de Worde. This successor of Caxton printed, in 1494, Trevisa's translation of Bartholomeus; and in his proeme he requests his readers "to remember the soul of William Caxton, first printer of this booke in Latin tongue at Cologne;" this is the only instance of Caxton's having printed a Latin work, and would seem to imply some knowledge of that language.

It is supposed, that he returned to England about the year 1472, and brought with him the unsold copies of the translation of the *Recueil*. His first patron was Thomas Milling, Bishop of Hereford, who held the abbotsip of St. Peter's, Westminster, in *commendam*. Caxton took up his residence and established his printing-office, either in the immediate neighbourhood of the abbey, or in one of the chapels attached to it.

That Caxton introduced the art of printing into England, and first practised it here, was never doubted till the year 1642: a dispute arose, at this time, between the Company of Stationers and some persons, respecting a patent for printing; the case was formally argued; and in the course of the pleadings, Caxton was proved, incontestably, to have been the first printer in England. Soon after the Restoration, a book was discovered in the public library at Cambridge, the date of which was Oxford, 1468. The probability is, however, that the date of this book is incorrect, and that it should have been 1478, not 1468; this is inferred from its being printed with separate fusile metal types, very neat and beautiful, from the regularity of the page and the appearance of signatures; and, moreover, from the fact, that no other production issued from the Oxford press till eleven years after 1468, it being highly improbable that a press connected with a university should have continued so long unemployed. But, even granting that the date is accurate, and that the book was printed in 1468, six years before the execution of any work by Caxton, the merit of Caxton, and the obligations of this country to him, are but little lessened by this circumstance.

Frequent and unprofitable disputes have arisen, at different times, and on various occasions, respecting original discoveries and inventions. He, who

first unfolds and demonstrates a grand and important principle, or, by his skill, penetration, and labour, succeeds in applying a known power to new purposes of benefit to mankind, may excite our admiration for his genius or his knowledge; but if, from the circumstances of the times, and men's minds not being ripe and prepared, or from a combination of untoward and unfavourable events, or from any other cause, dependent on himself or not, his discovery or invention, of whatever nature it may be, dies with him, or is barren and unproductive, without shedding its light or influence on his contemporaries and future ages, we must withhold from him our gratitude and sense of obligation, and reserve them for the man to whom we can trace the benefits we enjoy.

The common opinion is, that the 'Game of Chess' was the first book printed by Caxton at Westminster: Mr. Dibdin, however, thinks it more probable that the Romance of Jason was the earliest specimen of his press in England. These are supposed to have been printed in 1474; this date is, indeed, specified in the 'Game of Chess,' but it is doubtful whether it signifies the year when it was written, or that in which it was printed. This book was dedicated to George Duke of Clarence, the oldest surviving brother of King Edward. Caxton enjoyed the patronage of Henry VII., and his son, Prince Arthur, as well as of Edward and his brother; some of the nobility also encouraged him. Whether their patronage and encouragement displayed themselves in a substantial and profitable manner, we do not learn, but he himself was indefatigable in cultivating this new art. Besides the labour necessarily attached to his press, he translated not fewer than five thousand closely printed folio pages, though well stricken in years. From the colophon of Wynkyn de Worde's edition of the *Vitas Patrum*, 1495, it appears that this book was translated out of French into English by William Caxton, of Westminster, late dead, and that he finished it "at the last day of his life." The productions of his press amount to sixty-four. Of the most interesting of these works, either from the anecdotes connected with them, from the insight they give into his life and character, or into the manner of the times, or from the specimens they afford of his talents and information, we shall give a short account, arranging them in chronological order.

'Dictes and Sayings of the Philosophers.' This is the first book 1477. printed by Caxton with the year and place specified. It was translated from the French by Antony Woodville, Earl of Rivers. This nobleman had left out some strictures on women, which were in the original French; these Caxton translated and added as an appendix in three additional leaves; of his reasons for doing so, he gives the following statement. Lord Rivers had desired him to look over the translation, and to correct it. Caxton observed that the Dictes of Socrates on Women were not there, and indulged in many conjectures respecting the reason of their omission. He supposed that some fair lady had used her influence with his lordship, or that he was courting some fair lady at the time, or that he thought Socrates said more than what was true, or that these Dictes were not in his lordship's copy: "or else peradventure that the wind had blown over the leaf at the time of the translation." As, however, his lordship had given him permission to correct the translation, Caxton thought he should not be going beyond due limits if he added these Dictes. But, he tells us, "I did not presume to put and set them in my said lord's book, but in the end apart, in the rehearsal of the works, that Lord Rivers, or any other person, if they be not pleased, may with a pen erase it, or else rend the leaf out of the book, humbly beseeching my said lord to take no displeasure on me so presuming." He then requests the reader to lay the blame on Socrates, not on him.* From his insertion of these strictures on women, which are not the most courtly, it has been inferred that he was a womanhater; but that he was not so, appears from some of his prologues, especially from that to the 'Knight of the Tower.' This work he was requested to translate and print by "a noble lady, who had brought forth many noble and fair daughters, which were virtuously nourished and learned."

'The Moral Proverbs of Christina, of Pisa.' The same year Caxton 1478. began to print a work called 'Cordyael,' but he did not finish printing it, or at least it was not published till 1480. It does not appear that

any other work came from his press during this interval. These two books were also translations from the French, by Caxton's patron, Lord Rivers. Of the political life of this accomplished and amiable nobleman, who was one of the very few who, in that age, promoted the cause of literature in this country,—this is not the place to speak: his dreadful catastrophe is well known.

"Rivers, Vaughan, and Gray,
Ere this, lie shorter by the head at Pomfret."

Caxton gives the following account of him and his works. "The noble and virtuous Lord Anthoine, Earl Rivers, Lord Scales and of the Isle of Wight, under governor to my Lord Prince of Wales, notwithstanding the great labour and charge that he hath had in the service of the King and of the said Lord Prince, as well in Wales as in England, which hath be to him no little thought and business both in sprite and body, as the fruit thereof experimentely sheweth; yet, over that, t' enrich his virtuous disposicion, he hath put him in devoyr, at all times, when he might have a leisure, which was but startmele, to translate divers works out of French into English. Among other passed through myn hand, the book of the Wise Sayings or Dictes of Philosophers, and the wise holson Proverbs of Christine of Pisa, set in metre. Over that, he hath made divers balads agenst the seven dedly synnes. Furthermore, he took upon him the translating of this present work, named Cordyael, trusting that both the reders and the hearers thereof should know themself hereafter the better, and amend their lyving." These ballads are supposed to be lost; but John Rouse, of Warwick, a contemporary historian, has preserved a short poem of the Earl. Rouse seems to have copied it from his handwriting; it was written during his confinement in Pomfret Castle, a short time before his death in 1483; and, as Dr. Percy justly remarks, "gives us a fine picture of the composure and steadiness with which this stout Earl beheld his approaching fate."*

In this year (1480) also, Caxton printed his Chronicle, and his Description of Britain which is usually subjoined to it. These were very popular, having been reprinted four times in this century, (twice, however, without the Description;) and seven times in the sixteenth century.

* A manuscript of Lord Rivers's translation of this work, with an illumination representing him introducing Caxton to Edward IV., his queen, and the prince, is preserved in the Archbishop of Canterbury's Library, at Lambeth Palace.

* It is printed in Percy's Reliques of Ancient English Poetry, vol. ii. p. 44; and in Ritson's Ancient Songs, p. 87.

'The Mirror of the World,' 'Reynard the Fox,' from the Dutch, 'Tully 1481. on Old Age,' 'Tully on Friendship,' and 'Godfrey of Boulogne,' appeared this year. The two Treatises of Tully were translated by John Tiptoft, Earl of Worcester*.

This year Caxton published the 'Polychronicon,' from the English ver- 1482. sion of John of Trevisa, who translated it from the Latin of Higden.

It is a large volume, and seems to have been intended by Caxton as a helpmate to his Chronicle. The printing must have occupied him the whole year, as no other publication came from his press in 1482. Besides printing it, however, he added an eighth book, bringing the history down from 1357 to 1460; "because," he says, "men, whiles in this time ben oblivious and lightly forgotten, many things daygne to be put in memory; and also there cannot be founden in these days but few that wryte in their regysters such things as daily happen and fall." He was also obliged to take the trouble of altering many parts of Trevisa's language; for, though only 124 years had elapsed, many words were quite obsolete and unintelligible. This, Caxton particularly notices in the 'Polychronicon;' and at greater length in the following curious passage in the preface to his 'Eneid,' a work from his press, that will be afterwards noticed.

"After divers works, made, translated, and atchieved, having no work in hand, I, sitting in my study, where as lay many divers pamphlets and books, it

happened that to my hand came a little book, in French, which late was translated out of Latin, by some noble clerk of France, which book is named 'Eneid,' as made in Latin by that noble person and great clerk, Virgil, which book I saw over, and read therein. (He then describes the contents.) In which book I had great pleasure by cause of the fair and honest terms, and words, in French, which I never saw tofore like, ne none so pleasant nor so well ordered: which book as me seemed should be much requisite to noble men to see, as well for the eloquence as histories; and when I had advised me in this said book, I deliberated, and concluded to translate it into English, and forthwith took a pen and ink, and wrote a leaf or twain, which I oversaw again, to correct it; and when I saw the fair and strange terms therein, I doubted that it should not please some gentlemen, which late blamed me, saying, that in my translations, I had over curious terms, which could not be understand of common people; and desired me to use old and homely terms in my translations; and fain would I satisfy every man, and so to do, took an old book, and read therein; and certainly the English was so rude and broad, that I could not well understand it; and also, my Lord Abbot of Westminster, did do shew to me late certain evidences, written in old English, for to reduce it into our English, now used; and certainly it was written in such wise, that was more like to Dutch than to English. I could not reduce, nor bring it to be understanden."

* This nobleman possessed great talents, received an excellent education, and devoted his purse and leisure time to the purchase of books, and the promotion and encouragement of literature. Horace Walpole remarks, that whatever disputes there may be about his titles in the state, there is no doubt but he was anciently at the head of literature, and so masterly an orator, that he drew tears from the eyes of Pope Pius II. (the celebrated Eneas Sylvius) when he visited Rome, through a curiosity of seeing the Vatican Library. (On his return to England, he presented books to the Library at Oxford, which had cost him 500 marks, upwards of 330*l*.—a large sum at this period.) His fondness for literature, and perhaps his political opinions, both being zealous Yorkists, brought him acquainted with Caxton. When Edward IV. was obliged to abandon his kingdom in order to save his life, in October, 1470, the Earl of Worcester was taken and beheaded on Tower hill, on the 15th of that month. Caxton speaks in warm and affectionate language of him. "In his time," he says, "he flowered in vertue and cunning, and to whom he knew none lyke among the Lords of the Temporality in science and moral vertue." Again: "O, good blessed Lord God! what grete loss was it of that noble, vertuous, and well-disposed lord; and what worship had he at Rome in the presence of our holy fader, the Pope; and so in all other places unto his deth; at which deth, every man that was there might lern to die, and take his deth patientlye."

Again: "Certainly the language now used varieth far from that which was used and spoken when I was born; for we, Englishmen, been borne under the domination of the moone, which is never stedfaste, but ever wavering." In his time, the inhabitants of one county hardly understood those of another: "The most quantity of the people understand not Latin nor French, in this royaume of England." The intermixture of French words and idioms, of course, was most prevalent in the capital. "That common English, that is spoken in one shyre varyeth from another—in so much that in my dayes happened, that certain merchants were in a ship, in Thamys, for to have sailed over the sea to Zealand; and, for lack of wind, they tarried att Forland, and went to land for to refresh them; and one of them, named Sheffield, a mercer, came

into an hous, and axed for mete, and especially he axed after egges; and the good wyfe answerde, that she could speke no Frenche, and the merchant was angry, for he also could speke no Frenche, but would have had egges, and she understood him not. And then at last another sayd, that he would have eyrun. Then the good wyfe sayd, that she understood him well*." Caxton seems to have been a good deal puzzled and perplexed about the language he should use in his translations; for, while some advised him to use old and homely terms: "Some honest and great clerks," he adds, "have been with me, and desired me to write the most curious terms that I could finde—and thus, betwixt plain, rude, and curious, I stand abashed." There can be no doubt, however, that either by following the advice of those honest and great clerks, or from his long residence abroad—in his translations, as Dr. Johnson observes, "the original is so scrupulously followed, that they afford us little knowledge of our own language; though the words are English, the phrase is foreign."

Caxton printed more books this year, than in any other. Seven bear 1483. this date. Among them were 'Gawin's Confessio Amantis;' and the 'Golden Legend.' A very full and particular account of the former is given by Mr. Dibdin, in his 'Typographical Antiquities,' vol. i., p. 177—185. Caxton informs us, that the printing of the 'Golden Legend' made him "half desperate to have left it, and to have laid it apart;" but he took courage, and went on, when the Earl of Arundel promised to take a number of copies, and to send him "a buck in summer, and a doe in winter."

He printed four books, of which two were 'Æsop;' and the 'Order of 1484. Chivalry.' Mr. Dibdin, who has seen and examined more early editions of Æsop, in different languages, than most people, considers Caxton's edition, on the whole, as the rarest of all those in the fifteenth century. His Majesty's copy of it, he adds, is the only perfect one known. In the 'Order of Chivalry,' which he translated out of French, he gives a curious picture of the manners of his age; and at the same

time laments, in strong and feeling language, the decline of chivalry: "O! ye knights of England, where is the custom and usage of noble chivalry that was used in those days. What do you now, but go to the baynes (baths,) and play at dyse; and some, not well advysed, use not honest and good rule again all order of knighthode. Leve this—leve it! and read the noble volumes of St. Graal, of Lancelot, of Galaad, of Trystram, of Perseforest, of Percival, of Gavaine, and many more. There shall ye see manhode, curtsys, and gentleness. And look in latter days of the noble actes sith the Conquest; as in King Richard dayes, Cuer de Lion; Edward I. and III., and his noble sones; Syr Robert Knowles, &c. Rede Froisart. Also, behold that noble and victorious King Hary the Fyfthe. I would demand a question, if I should not displesse: How many knyghtes ben ther now in England, that have th' use and th' exercise of a knyghte. That is to wit, that he knoweth his horse, and his horse him. I suppose, an a due serche sholde be made, there sholde be many founden that lacke. The more pyte is. I would it pleased our soverayne lord, that twyse or thryce a year, or as the lest ones, he wold do cry justes of pies, to th' ende, that every knyghte sholde have hors and harneys, and also the use and craft of a knyghte; and also to tornay one against one, or two against two, and the best to have a prys—a diamond or jewels, such as should plesse the prynce."

Caxton, probably, like most other persons when they become old, regarded the manners of youth as much worse than they were in his early days. We must make allowance for this failing, in reading his Picture of London, and its youthful inhabitants. "I have known it in my young age much more wealthy, prosperous and richer, than it is at this day; and the cause is, that there is almost none that intendeth to the commonweal, but only every man for his singular profit." And, in another place, "I see that the children that ben borne within the said citey encrease and proufite not like their faders and elders: but for moste parte, after that they ben coming to their perfite years of discretion and ripeness of age, how well that their faders have left to them grete quantity of goods, yet scarcely amonge ten, two thryve. O blessed Lord, when I remember this I am all abashed; I can-

* If Caxton is correct in this story, the language of this part of Kent (in the weald of which, where he was born, he acknowledges English is spoken broad and rude) must have borrowed the word for egg from the Teutonic, and not from the Anglo-Saxon; *egg*, being the Anglo-Saxon, and *ei* the German, for an egg.

not jage the cause; but fayrer, ne wiser, ne bet bespoken children in theyre youth ben no wher then ther ben in London; but at their full ryping there is no carnel, no good corn founden, but chaffe for the most parte."

In 1485, his press was entirely occupied with romances. The first was 'Morte Arthur, the Liff of King Arthur of the Noble Knyghts of the Round Table, and in the end the dolorous Deth of them all.' This had been translated from the French, by Sir Thomas Mallory, knight; and Caxton printed it from the MS. It is a magnificent volume, and is supposed to have occupied him seven months. 2. The History of Charlemagne, already mentioned, as having been compiled and translated from two French books, by the advice of his friend Henry Boulonger, canon of Lausanne. Only one more was printed by him this year—'The Storye of the right noble, right valiant, and worthy Knight Parys;' this also he translated from the French. In the year 1486, his press seems to have been idle; at least none of his works bear this date: and in 1487, only one book appeared, entitled, 'The Book of Good Manners.' The original French, from which he translated it, he informs us, was given to him by a special friend of his, a mercer of London*. In 1488 no books appeared. In 1489 Caxton published four, of which 'The Fait of Armes and Chivalry' was one. "This was delivered to me, William Caxton, by the most Chrystin King and redoubted Prince, my natural and sovereign lord, Kyng Henry the 7th, Kyng of England and of France, in his palace of Westminster, the 23 day of Janyure, the 4th yere of his regne; and desired and willed me to translate this said boke, and reduce it into our English and natural tongue, and to put it in imprynte." It is a compilation by Christine of Pisa, from the Military Treatises of Vegetius Frontinus, and the *Arbre des Batailles*. Another book printed this year was the 'Eneidos,' translated from the French; it is a mere compilation in prose of the principal events recorded in Virgil's poem, and has no pretension to an imitation of that poet, in any one respect. It does not, there-

fore, deserve the contemptuous and sarcastic notice taken of it, by Gawin Douglas, in the preface to his Scotch translation of Virgil. Caxton's work was dedicated to Arthur, eldest son of Henry VII. He represents himself as at this time well stricken in years: and if the date usually assigned to his birth (1412) be accurate, he must have been seventy-seven years old. The 'Doctrinne of Sapience,' also published in 1489, is the last that bears a date, if we except his edition of the Statutes: a perfect set of these, passed in the reign of Henry VII. till the death of Caxton (1490—1) have very recently been discovered. Twenty-eight of his known publications are without dates. Some of these have been already noticed; a few of the remainder will supply some interesting matter. Caxton printed Chaucer's *Canterbury Tales* twice; each edition is without date, but the first is supposed to have been one of the earliest productions of his press. Mr. Warton regards it as much more to his honour, than it can be to his discredit, that he printed them very incorrectly. "He probably took the first manuscript that he could procure to print from, and it happened unluckily to be one of the worst in all respects that he could possibly have met with." As soon, however, as he found out these imperfections and errors, he began a second edition "for to satisfy the author, whereas tofore, by ignorance, I had erred in hurting and defamyng his boke." Caxton's extreme and conscientious desire to fulfil one of the most important duties of an editor and printer, (and he acted as both,) by giving the works as the author himself wrote them, as well as his candour and ingenuousness, are depicted in a clear and interesting manner, in the preface to his second edition.

He seems to have had a veneration for the memory of this poet, and to have formed, with sound judgment and good taste, a most correct and precise estimate of the peculiar merits of his poetry. As a proof of the former, we may mention, that Caxton, at his own expense, procured a long epitaph to be written in honour of Chaucer. This was inscribed on a tablet, hung on a pillar near the poet's grave in the south aisle of Westminster Abbey. The following remarks will amply justify what we have stated respecting Caxton's ability, fully to understand, and thoroughly to relish, the merits and beauties of Chaucer's poetry.

* The mercers of London seem to have been great encouragers of literature. Prefixed to Wynkyn de Worde's reprint of Caxton's 'Polichronicon' in 1495, there are a few poetical stanzas, in which one Roger Thornye, a mercer, is praised for ordering and encouraging the printer to undertake so laborious a performance.

"We ought to give a singular laud unto that noble and great philosopher, Geoffrey Chaucer, the which, for his ornate writings in our tong, may well have the name of a laureate poet. For, to fore that he embellished and ornated and made fair our English, in this royaume was had rude speech and incongrue, as yet it appeareth by old books, which, at this day, ought not to have place, ne be compared among unto his beauteous volumes and ornate writings, of whom he made many books and treatises of many a noble history, as well in metre as in rhyme and prose: and then so craftily made, *that he comprehended his matters in short, quick, and high sentences, eschewing perplexity; casting away the chaff of superfluity, and shewing the picked grain of sentence, uttered by crafty and sugared eloquence.*"

And speaking of Chaucer's 'Book of Fame,' which he also printed, he says, "Which work, as me seemeth, is craftily made and digne to be written and known; for he toucheth in it right great wisdom and subtle understanding; *and so in all his works he excelleth, in mine opinion, all other writers in our English, for he writeth no void words, but all his matter is full of high and quick sentence, to whom ought to be given laud and praise for his noble making and writing.*"

Chaucer's translation of Boethius was also printed by Caxton, without date. It is alternately in Latin and English, but the former is not given entire; a few verses of a period in Latin being succeeded by the whole of the corresponding period in English, and so through the whole volume: the Latin type is large compared with the English.

A curious volume was printed by Caxton, about the period when the French, which had hitherto been spoken almost exclusively at court, was giving place to the English language; it is entitled the 'Book for Travellers.' It contains the corresponding terms in both languages, for those things most commonly talked of at court, especially such as relate to dress.

We have already stated that he continued his labours as a printer to the very last; he seems also to have taken an active part in the affairs of the parish of St. Margaret, Westminster, in which he lived and died; since, for some years before his death, his name appears to the churchwardens' accounts, as one of the parishioners who had undertaken to examine their details. He died in

1490—1, was buried in St. Margaret's, and left some books to that church.

His character may be collected from the account we have given of his labours, and the extracts we have made from his prefaces; he was possessed of good sense and sound judgment; steady, persevering, active, zealous and liberal in his services for that important art which he introduced into this kingdom; labouring not only as a printer, but as translator and editor. It has been objected that he was too much given to admire and print romances; but in this he only partook of the spirit of the age; perhaps, indeed, it survived in him longer and with more power, than in most of his contemporaries; but that his love of romance did not blunt his judgment and taste for real talent is evident by his printing Chaucer's works, and his criticisms on them. It should be recollected, also, that in the selection of works for the press he was necessarily guided by public opinion, and by the probability that what he did print would repay him for his labour and expense. The remarks of Gibbon on this point are sensible and candid. "In the choice of his authors, that liberal and industrious artist was reduced to comply with the vicious taste of his readers, to gratify the nobles with treatises of heraldry, hawking, and the game of chess, and to amuse the popular credulity with romances of fabulous knights, and legends of more fabulous saints. The father of printing expresses a laudable desire to elucidate the history of his country, but instead of publishing the Latin Chronicle of Ralph Higden, he could only venture on the English version by John de Trevisa; and his complaint of the difficulty of finding materials for his own continuation of that work, sufficiently attests, that even the writers which we now possess of the fourteenth and fifteenth centuries, had not yet emerged from the darkness of the cloister." If we reflect, too, on the state of England at this period, that he established his press soon after the murder of Henry VI., and that he carried on his works during the remainder of the reign of Edward IV., and the reigns of Edward V. and Richard III., when the minds of those most likely and able to encourage him were seldom free from alarm for their own safety, their time much occupied, and their means necessarily reduced by the distracted and wasted state of the country; and when little attention or money could be spared

for literature; we must give Caxton great credit for having done so much; for having in the midst of confusion persevered in his labours, and succeeded in establishing the art of printing in his native land. That England at this period was much behind France in literature, is proved by the fact that Caxton was obliged to have recourse to the French language for most of the works which he printed. He thus, it may be supposed, employed his press profitably to himself, and certainly with advantage to our literature; for, as Mr. Warton truly observes, "had not the French furnished him those materials, it is not likely that Virgil, Ovid, Cicero, and many other good writers, would, by means of his press, have been circulated in the English tongue, so early as the close of the fifteenth century."

There was, perhaps, at that time, no man in England, whose talents, habits, and character, were so well fitted to introduce and establish the art of printing as those of William Caxton: to have succeeded in this enterprise, the benefits of which, in a national point of view, we may even now be enjoying, is praise enough; for it is the praise of having been a useful citizen of the state and member of society,—the highest that man can bestow or receive.

Caxton's printing is inferior, in many respects, to the printing executed on the continent during the same period. The types employed in the latter have a squareness, fineness, and brilliancy not in those of Caxton; the paper and press-work are much superior; the order and symmetry of the press-work are qualities which appear in very few of his productions. He seems not to have been able to procure, or to have rejected, the roman letter, even after it had been employed with excellent effect by the continental printers. On the other hand, as Mr. Dibdin remarks, "whenever we meet with good copies of his books, his type has a bold and rich effect, which renders their perusal less painful than that of many foreign productions, where the angular sharpness of the letters somewhat dazzles and hurts the eye." His ink is of an inferior quality; his paper is fine and good, resembling the thin vellum on which MSS. were then generally written; his letter is a mixture of secretary and Gothic, also resembling that used in MSS. at that period; his leaves are seldom numbered, his pages never. When the impression was finish-

ed, Caxton revised a single copy, and corrected the faults with red ink; the copy thus corrected was then given to a proper person to correct the whole impression; as he was extremely exact, this operation occasioned him much troublesome and minute labour.

CHAPTER VI.

Notices of some other Printers in England, contemporary with Caxton, or immediately after him—Printing introduced into Oxford, Cambridge, St. Alban's, York, Southwark, Tavistock, Ipswich, &c.—into Scotland and Ireland.

PRINTING-PRESSES were set up in England by some foreigners and natives, before Caxton's death. In 1480 and 1481, John Lettou, a foreigner, printed in London. He is said to have come over to this country on Caxton's invitation. This, however, is not likely, as his unskilfulness is such that Caxton would scarcely have invited or encouraged such a bad workman. The types he employed in the only two books he is known to have printed himself, are rude and broken. After he had published them, he was taken into the printing-office of William de Machlinia—first, it is supposed as a journeyman, and afterwards as a partner. Machlinia also was a foreigner; the only celebrity that can attach to the name of these partners, arises from their having printed the first edition of 'Littleton's Tenures,' in a small folio, without date. Their printing-office was near All-Hallows church; their letter, a coarse Gothic one. The partnership was of very short continuance; for, in 1483, Machlinia's name alone appears. Wynkyn de Worde was a man of very superior talents and skill. He was a native of Lorraine, and came into England either along with Caxton, or was afterwards invited by him; he was employed as Caxton's assistant till his death. He continued in his office, as his successor, till between the years 1500 and 1502; when he removed his printing-office to the sign of the Sun, in the parish of St. Bride's, where he died in 1534. Soon after he began business for himself, he greatly improved the art by cutting his own punches, which he sunk into matrices, and casting his own letter. His books are remarkable for their neatness and elegance. Four hundred and eight are known to have been printed by him. His edition of the

'Polychronicon' is deemed uncommonly well executed. Dr. Dibdin calls it "one of the most beautiful folio volumes of that skilful artist:" its date is 1495. Several grammarians of repute, Stanbridge, Garlandea, Whittinton, Holt, and Lilye, lived at the period of the introduction of printing into England; and Wynkyn de Worde, who appears to have been a man of good education as well as talents, printed some of their works. He printed the 'Accidence' of Stanbridge, "in Caxton's house, at Westminster." The date unknown. His 'Vocabulary,' in 1500. This De Worde continued to republish till 1532. The 'Multorum Vocabulorum Equivocorum Interpretatio,' by Garlandea, was printed in 1500, by De Worde, and at least as late as 1517. He also printed repeatedly the grammatical works of Whittinton. Holt's 'Lac Puerorum, or Milk for Children,' was printed by him in 4to, without date. No impression of the grammar of Lilye (but which, in reality, was drawn up by several persons,) by De Worde, or in Lilye's lifetime, has been discovered. The first Greek letters used in England are found in a Grammatical Treatise of Whittinton, by De Worde, in 1519: they are cut out of wood. We have gone into this detailed mention of those works chiefly in order to show the assistance which the press was already giving, in its earliest days, to elementary education. 'Accidences,' 'Lucidaries,' 'Orchards of Words,' 'Promptuaries for Little Children,' were published in great numbers.

Richard Pynson, a Norman by birth, was in Caxton's office. He carried on his business from 1493 to 1531. His known productions are two hundred and ten. He styled himself King's Printer; but it is doubtful whether he had any patent. He introduced the Roman letter into this country. His types are clear and good; but his press-work is hardly equal to that of De Worde. Most of the works he printed are of a higher character for merit and usefulness than those either of Caxton or De Worde. The first treatise on arithmetic, published in this country, was printed by Pynson, in 1522, 4to, 'Libri 4 de arte Supputandi.' It was written by Cuthbert Tonstall, Bishop of London, one of the best mathematicians, as well as general scholars, of his age. In 1499, the first edition of the 'Promptorius Puerorum' came from Pynson's press. He was a voluminous printer of early statutes; and in his time began the

publication of what are still called 'Year Books.' Soon after Caxton's death he printed an edition of the 'Canterbury Tales,' and in 1526, reprinted them with a collection of some other pieces of Chaucer. William Jaques was contemporary with Pynson, and printed in conjunction with him the acts passed in 1503. He used a new cut English letter, "equalling, if not excelling, in beauty, any produced by modern foundries." In 1530, the first French and English Dictionary ('Eclaircissemens de la Langue Françoise') was published by John Hawkins. No other work from his press is known.

On the death of Pynson, Thomas Berthelet was appointed King's Printer, by a patent, the earliest that has been found. He dwelt at the sign of Lucretia Romana, Fleet-street. Thomas Godfray was a printer at the same time. These printers embarked in the same concern. From their press came (1532), a complete edition of all that had then come to light of the works of Chaucer. It is on fine paper, and the types and press-work are remarkably neat and elegant. This edition was superintended, and published, under the patronage of William Thynne. To one of this family—perhaps to the same person—Caxton had been indebted for the manuscripts, which enabled him to publish his second and much improved edition of the 'Canterbury Tales.'

If the title of the book (already noticed) purporting to be printed at Oxford, in 1468, be erroneous, as there is strong reason to suspect it to be, then the establishment of printing in this city must have been in 1478. The first known printers there, however, were Theodore Rood, a German, and Thomas Hunt, an Englishman; and their first production Herbert assigns to the year 1485. It is not known in what year printing was introduced into Cambridge. It certainly was very shortly after Caxton established his press in Westminster. The types of the earliest known work which issued from Cambridge, very much resemble Caxton's largest. The first printer at Cambridge, whose name is known, was John Sibert, who is supposed to have been born at Lyons. A few Greek words are interspersed in his edition of Linacre's translation of one of Galen's treatises. This is the earliest appearance of Greek metal types.

In 1480, a printing-press was established in the Benedictine Monastery at St. Albans, of which William Walling-

ford was at that time prior. Wynkyn de Worde informs us that the printer was "sometime a schoolmaster;" and he probably was a monk. The types of the book, which is a Treatise on Rhetoric, in Latin, are very rude. Printing was introduced into York, in 1509, by Hugh Goes, supposed to have been the son of a printer at Antwerp. His first production was the *Pica* of the Cathedral of that city; he afterwards removed to Beverley, and then to London. Peter de Triers, probably a native of that city, printed, in 1514, the first book in South-west: it was the 'Moral Distichs of Cato,' with Erasmus's 'Scholia,' in Latin, 1525, Tavistock. Here was an exempt monastery, celebrated for its lectures on the Saxon language, which were discontinued about the period of the Reformation. Several of its abbots were learned men; and the encouragement in literature is evident by the establishment of a printing-press a few years after the introduction of printing into England. The first printed book was John Walton's Translation of Boethius de Consolatione, in 4to; the printer's name was Thomas Rychard, monk of that monastery. A book, called the 'Long Grammar,' was printed at Tavistock, but no copy of it has been found. A printing-office was first established in Canterbury about 1525; but no name or date is in the book supposed to have been the first printed there. Cardinal Wolsey, on his visit to do honour to his native city, established or patronised a printing-office at Ipswich in 1538; the printer was John Oswen, who removed to Worcester in 1548, where he published a folio and quarto edition of the New Testament. The art was introduced into Norwich about 1570, by Anthony Solen, one of the many foreigners from the Low Countries who introduced all sorts of woollen manufactures into that city.

Between the year 1471, when Caxton began to print, and the year 1540, the English press, though conducted by industrious, and some of them learned printers, produced very few classics. 'Boethius de Consolatione,' in Latin and English, three editions of 'Æsop,' 'Terence,' the 'Bucolics' of Virgil twice, and 'Tully's Offices,' were the only classics printed. From Cambridge no classical work appeared; and the University of Oxford produced only the

first book of 'Cicero's Epistles,' and that at the expense of Wolsey.

The most ancient specimen of Scotch printing known, is a collection entitled 'The Porteus of Nobleness,' Edinburgh, 1508. A patent had been granted by James IV. to Walter Chapman, a merchant of that city, and Andrew Mollar, a workman, for establishing a press there in 1507. Very few works, however, appear to have issued from this or from any other Scotch press for the next thirty years. In 1554, one of Knox's Theological Treatises was printed at Kalykow, or Kelso. Hamilton's, Archbishop of St. Andrews, Catechism, and Treatise on the 'Seven Sacraments,' 4to, was the first book printed at St. Andrews, 1552. It was nearly a century after this, before Aberdeen, the seat of another University, could boast of a press. Edward Raban, who published a poem on the death of Bishop Forbes, in 1635, styles himself "Master Printer,—the first in Aberdeen." Ireland was the last European country, except Russia, (and this, in the sixteenth century, could scarcely be reckoned European,) that received the art of printing. The earliest book known is the Common Prayer, printed in Dublin, 1551, by Humphrey Powell. The Library of Trinity College, in that city, contains but one book printed there, even so early as 1633. The first book in the Irish character, was a Liturgy, 1566, for the use of the Scotch Highlanders.

The advantages which have been derived from the invention of printing, and from the perseverance and ingenuity of those by whom it was established, among whom we may place William Caxton, are vast and important; but they are too obvious to require, in this place, an elaborate detail. The productions of men of genius and learning; the records of literature and of science; of whatever is either brilliant in imagination or profound in thought; whatever may either adorn or improve the human mind,—thenceforth became imperishable. The light of knowledge cannot again be quenched—it is free, and open, and accessible as the air we breathe. The future history of the world may, indeed, disclose enough both of misery and of vice; but it cannot again present an universal blank, or be disgraced by another age of utter and cheerless ignorance.

SIR EDWARD COKE.

It has often been observed, that the biography of those men who have enlightened or entertained the world by their writings, is barren of incident, and devoid of interest. But this, like all other general remarks, is subject to many exceptions. Besides the numerous instances of authors, whose lives have been chequered with variety of adventure, and frequent change of fortune, history, both ancient and modern, furnishes abundant examples of illustrious philosophers, and poets, and historians, who, while their leisure moments have been devoted to study, have nevertheless borne an active and a conspicuous part in the passing events of their time. As the life of every one who has taken a share in public affairs, must necessarily partake in a great degree of the interest attached to whatever is connected with them; and as it has almost invariably happened, that the most eminent individuals in every department of literature and science have flourished during periods the most pregnant with important or extraordinary circumstances, the biography of such of them as have stood forward on the stage of public life can seldom fail to be both interesting and instructive. The life of the great lawyer who is the subject of the following memoir, is an instance corroborative of this observation. The profession to which he devoted himself is one that, in this country, generally obliges those who attain very considerable eminence in it, to occupy a conspicuous station in the political community; and the exercise of their public duties is for the most part connected with those most important of all objects, the civil liberties, the rights and immunities of their countrymen. The period during which he lived, comprises the greater part of the reign of Elizabeth; the whole reign of James I; and part of that of Charles I; a space of time peculiarly memorable in the history of the English constitution, since during its continuance the prerogative of the crown was exerted and enforced with that intemperate want of forbearance, which afterwards caused its complete overthrow. These circumstances are sufficient to compensate for the want of personal incident and adventure.

Edward Coke was the descendant of an ancient and honourable family of Norfolk. He was born at Mileham, in that county; (1550;) and his father, who was himself a barrister of some eminence, dying while he was still young, he was at an early age left heir to a considerable fortune. Fortunately, however, his wealth did not eventually prevent him from embarking in the same honourable but laborious profession his parent had adopted. The bar was at that time considered, much more so than it is at present, a pursuit peculiarly adapted to the aristocracy; and whether there were more of ambition or of assiduity among their youth than they have been wont to display of late years, it certainly was then by no means uncommon to find men born to the enjoyment of ample fortunes devoting themselves to the study and the practice of the law, with no less zeal and perseverance than the keenest necessity could have stimulated them to exercise.

Coke was not poor, but he possessed a mind capable of the closest application, and ambition to render him assiduous in any pursuit that held out to him hopes of honour and preferment.

It is unnecessary to dwell on the particulars of Coke's education, as it does not appear that he was distinguished for any of the precocity of talent, or that his boyhood was attended with any of those uncommon circumstances, which sometimes give celebrity to the early years of remarkable men. After remaining a sufficient time at the free school of Norwich, where he had been sent at the age of ten years, he became a member of Trinity College, Cambridge, about the same time that the celebrated Doctor Whitgift was appointed master. There he resided during nearly four years; and having taken the degree of bachelor of arts, he afterwards proceeded to London for the purpose of studying the law as a profession. According to the general custom of that time, which required a student to go through a noviciate of some length in one of the inns of Chancery, previous to his admission as a member of either of the great inns of court, Coke was first enrolled among the students of Clifford's Inn, before his name was entered on the books of the Inner Temple.

Here he shortly distinguished himself by his assiduity and his rapid proficiency in study, which the frequent mootings and other academical exercises then practised in the inns of court gave him an opportunity of displaying to his seniors. Such public lectures and examinations, besides being capable of affording some assistance to those who were thrown without a guide among the intricacies of an abstruse study, had the advantage of bringing into notice many whose professional attainments might otherwise long have remained unknown. They have now for many years past been discontinued. Lord Keeper Guildford being represented by his entertaining biographer, Roger North, as the last person who regarded them in any other light than that of antiquated ceremonies; and, indeed, it appears, that even in Coke's time they were beginning to be much neglected; though this is a circumstance that he often laments in his writings.

It is much to be regretted that we have no detailed account of Coke's early studies in his profession; but we may gather from his occasional remarks on the subject, that he considered the time a young lawyer devoted to his profession might be best divided between attendance on the courts, or public lectures, and private reading. "I would advise our student," he says in one place, "that when he shall be enabled and armed to set upon the year bookes, or reports of law, that he be furnished with all the whole course of the law, that when he heareth a case vouched and applyed either in Westminster Hall, (where it is necessary for him to be a diligent hearer, and observer of cases of law,) or at readings or other exercises of learning, he may finde out and read the case so vouched; for that will both fasten it in his memory, and be to him as good as an exposition of that case. But that must not hinder his timely and orderly reading, which (all excuses set apart) he must bind himselfe unto; for there be two things to be avoyded by him, as enemies to learning, *præpostera lectio* and *præpropera praxis*." It is to be supposed that it was thus he himself acquired that fund of legal knowledge, for which he was remarkable even while he continued a student. In this capacity he remained during six years; after which time, in consideration of his

great proficiency in the law, he was permitted to be called to the bar, though the usual period of probation was then eight years. The flattering compliment thus paid by the heads of his profession to his learning and talents was of itself a sufficient recommendation to ensure him early opportunities for bringing himself further into notice. Accordingly we find him engaged as counsel in a case of some importance so early as 1578, that is, in the twenty-eighth year of his age. He was also appointed reader or lecturer at Lyon's Inn, an office which he held during three years; and his readings, (which were not given, as it is usual to give them at present, merely for the sake of observing an antiquated form,) were so assiduously attended, and so generally admired, that he rapidly attained a degree of repute much greater than that of any other barrister of the same age and standing at the bar. His practice, in consequence, daily increased; and he was at length retained as counsel in almost every cause of importance that was tried in Westminster Hall. He became recorder of the cities of Norwich and Coventry, then solicitor to the queen, and afterwards attorney-general. His career was equally successful in parliament. He was returned by the freeholders of Norfolk as knight of the shire; and in 1592 was made speaker of the House of Commons.

The increase of his fortune, which, it has been already mentioned, was originally considerable, more than kept pace with his preferment. Soon after he had been called to the bar, he had contracted a marriage with a lady of the ancient and highly connected family of the Paston's; and he received with her a fortune, such as was considered at that time a very large one, no less a sum than thirty thousand pounds. After her death, which occurred while he was attorney-general, he formed another no less advantageous alliance (1598) with the daughter of the celebrated Lord Burleigh. This lady, who was the widow of Sir William Hatton, also brought him a considerable addition to his property, as well as to his consequence; but his marriage with her was not productive of domestic happiness. The celebration of the ceremony involved the parties in some difficulty. Notwithstanding the severity with which Archbishop Whitgift

had shown himself disposed to treat all those who were privy to marriages performed in an irregular manner, this had been solemnized in a private house, without a licence being previously obtained for the purpose; and notwithstanding the footing of acquaintance, if not of intimacy, on which that prelate stood with regard to the attorney-general, the act of contumacy was not passed over. A prosecution was instituted in the ecclesiastical court against all the parties concerned, among whom was Lord Burleigh himself. The consequences might have been serious, had the authority of the church been exerted to the utmost on the occasion; but it is probable that the suit was commenced merely for the sake of public example, and the penalties incurred were eventually remitted. It is curious to remark that the cause assigned for this lenity was, that the offence had been committed through ignorance of the law.

Meantime the professional duties of the attorney-general were prosecuted with unremitted attention; and it is supposed, that in addition to the functions which belonged to his office, he had other occupations to employ his attention in private, being frequently consulted by the queen's council in matters only indirectly connected with his public duties. But, notwithstanding the multiplicity of his avocations, he found time in 1600 to publish the first of the eleven parts of his Reports, the remainder of which were completed during the subsequent reign.

In the same year occurred the memorable trial of the Earls of Essex and Southampton, for high-treason. They had been guilty not only of conspiring against the government, but of actually exciting the citizens to revolt and insurrection, with the intent (as the indictment set forth) of compassing the queen's death. The case for the prosecution was, of course, conducted on the part of the crown by the attorney-general; but he acquired little credit by his conduct on the occasion. It is true that, according to the general practice of that time, state prisoners were commonly treated with a degree of harshness and severity quite incompatible with the just and benevolent axiom of the English law, which supposes every accused party innocent until the charges brought against him have been confirmed by a verdict. The person to be put on his trial was thrown into prison

without the formality of an indictment. When confined, he was allowed neither pen, ink, nor paper; his friends and relations were denied access to him; and till the time of his appearing in court he remained in utter ignorance of every charge that was to be brought forward against him. He was not allowed to have any previous knowledge of the persons who were to compose the jury, though his right of challenging was almost the only privilege he was permitted to exercise; and whatever number of witnesses the crown might think proper to produce against him, he was not suffered to question them, or reply to their statements, until the whole case for the prosecution was closed. In short, the law treated the accused in every respect as though his conviction had already taken place, and he was unworthy to be considered other than a culprit. The formal proceedings in court were carried on in the same spirit. State trials were habitually conducted with a want of liberality, and even of decorum, towards those who were arraigned, which would be quite intolerable to the spirit and good taste of the present age. The counsel appointed to act on behalf of the crown seldom thought it necessary to appear, as if, in pressing their accusations against its enemies, they were reluctantly performing a painful duty; and far from endeavouring to mitigate by the mildness of their deportment the actual severity they were called upon to exercise, it was not unusual with them to aggravate it by expressions of personal hostility towards the prisoners on trial. The common prevalence of this practice might, perhaps, in some measure excuse (though it certainly cannot justify) Sir Edward Coke for conforming to it. But he carried this fault even farther than his contemporaries. In the prosecution of the Lords Essex and Southampton, whether from the natural violence and irritability of his temper, or from a desire of showing his obsequiousness to the queen by his treatment of her enemies, he behaved towards the two accused noblemen with a malignity and want of forbearance that not only tarnished his own reputation, but rather injured than strengthened the case which had been put into his hands. It is well known that the insurrection, which formed the chief ground of accusation against them, was too public and too notorious not to be fully capable of

being proved by the most unexceptionable testimony; yet Coke, not satisfied with the depositions of the witnesses, interrogated the accomplices of the treason, and even went so far as to examine the avowed enemy of the Earl of Essex, Sir Walter Raleigh, concerning what he had indirectly heard on the subject of the alleged conspiracy. Each of the peers, in his defence, alluded to the marked animosity which the attorney-general had displayed throughout the trial; and Lord Southampton, addressing him, said: "You urge the matter very far, and you wrong me therein; my blood be upon your head."

But violent and intemperate as was the bearing of Coke in prosecuting this charge, the manner in which he treated Sir Walter Raleigh on a similar occasion, reflects much greater disgrace on his character. The trial of that justly celebrated man took place in 1603, in the first year of the reign of James I. He was accused of high treason, in compassing and imagining to depose and destroy the king, and of treating with the Spanish government for assistance in the execution of his purpose. It is not necessary to enter into a detail either of the accusation or of the evidence that was adduced to support it. What foundation ever existed for the charge, it is now, as indeed it appeared at the time, to be impossible to ascertain; but at all events the testimony, by means of which Sir Walter was condemned, was entirely illegal. The only direct deposition that affected his innocence, was that of Lord Cobham, who was not openly produced in court as a witness, and who had made a solemn recantation of his former evidence. The law required that the accused party should not be convicted but on the testimony of two credible witnesses brought face to face; on this the prisoner insisted in his defence; but this clear and explicit rule of law was thought to give an inconvenient protection to the life and liberty of the subject, and was accordingly overruled through the influence of the attorney-general, who, however, could not, and did not attempt to show that the statutes, (5 and 6 Edward III. cap. 11,) by which it is expressly enacted that there shall be two witnesses in cases of high treason, had ever been repealed. He merely affirmed in general, that the law was altered; and endeavoured to account for the change, by declaring "that the crown could not

stand a year upon the king's master's head, if a traitor could not be condemned by circumstances." By this corrupt and disgraceful artifice, Sir Edward Coke not only succeeded in procuring the condemnation of Raleigh, but furnished a precedent, by means of which at after periods many other persons accused of high treason were unjustly and unlawfully convicted. His deportment towards his illustrious victim during the trial, was not less derogatory to the dignity of his own office, than offensive to decorum, and even insulting to the court. He loaded this accomplished gentleman and scholar with abuse and scurrility; called him the most notorious traitor that ever came to the bar: a monster, a viper, a spider of hell, a damnable atheist, one who had an English face, but a Spanish heart; and carried the licence of speech, which the custom of that time in some degree authorized, to an extent that had never before been attempted. The calmness and self-possession of the accomplished individual to whom these epithets were applied, served to make the overbearing conduct of the attorney-general appear more odious by the contrast. The following specimen of a dialogue that took place between the accuser and the accused, places the difference in a sufficiently strong light. After calmly listening to a long strain of scurrility and invective, Sir Walter observed:

"You speak indiscreetly, barbarously, and uncivilly."

Coke. "I want words to express thy viperous treasons."

Raleigh. "I think you want words indeed; for you have spoken one thing half a dozen times."

Coke. "Thou art an odious fellow: thy name is hateful to all England for thy pride."

Raleigh. "It will go nigh to prove a measuring cast between you and me, Mr. Attorney."

The conduct of Sir Edward Coke throughout this trial must have been recollected by Bacon, when, at a later period, he observed to him: "As in your pleadings you were wont to insult over misery, and to inveigh bitterly at the persons, which bred you many enemies, whose poison yet swelleth, and the effects now appear; so you are still wont to be a little careless in this point, to praise or disgrace upon slight grounds; and that sometimes untruly,

so that your reproofs or commendations are for the most part neglected and condemned; when the censure of a judge, coming slow but sure, should be a brand to the guilty, and a crown to the virtuous. You will jest at any man in public, without respect of the person's dignity or your own: this disgraceth your gravity, more than it can advance the opinion of your wit; and so do all actions which we see you do directly with a touch of vain-glory, having no respect to the true end."

From the tenour of these remarks, which were addressed to Coke under the form of "an expostulation," it will be perceived that he was not upon terms of friendship with the illustrious personage who afterwards became Lord Chancellor. Though the want of amity between them may, no doubt, in some measure be attributed to the insolent and haughty bearing of the attorney-general, it must be admitted, that a feeling of jealousy, wholly unworthy of such a character as Bacon's is usually represented, was probably the chief cause of it. But, to whichever of the two the original wrong be imputed, it is certain that their dislike of each other shortly became mutual, and was at length increased to undisguised animosity. After the specimen which has been just given of the language employed by Coke, in the trial of Sir Walter Raleigh, it will not excite much surprise to find him on another occasion forgetful of decorum (at least as decorum is at present understood) towards his own personal enemy; and to perceive that the same ungovernable warmth of temper which he had before exhibited in so disgraceful a manner, should again give a calm opponent a decided advantage over him. Bacon has left among his works a short tract, entitled, "A true remembrance of the abuse I received of Mr. Attorney-General, publicly in the exchequer, the first day of term; for the truth whereof I refer myself to all that were present:" and if this document state the circumstances correctly, it will not be disputed that the attorney-general would, in every point of view, have done wisely if he had refrained from provoking such an adversary to an open contest.

Bacon, who was then at the bar, had occasion to move for the reseat of some lands, "and this," says he, "I did in as gentle and reasonable terms as might be."

"Mr. Attorney kindled at it, and said: 'Mr. Bacon, if you have any tooth against me, pluck it out; for it will do you more hurt than all the teeth in your head will do you good.' I answered coldly in these very words: 'Mr. Attorney, I respect you; I fear you not; and the less you speak of your own greatness, the more I will think of it.'"

"He replied: 'I think scorn to stand upon terms of greatness towards you, who are less than little; less than the least;' and other such strange light terms he gave me, with that insulting which cannot be expressed."

"Herewith stirred, yet I said no more but this: 'Mr. Attorney, do not oppress me so far; for I have been your better, and may be again, when it please the queen.'"

"With this he spake, neither I nor himself could tell what, as if he had been born attorney-general; and in the end bade me not meddle with the queen's business, but with mine own; and that I was unsworn, etc. I told him, sworn or unsworn was all one to an honest man; and that I ever set my service first and myself second; and wished to God that he would do the like."

It was probably in reference to this quarrel that Bacon addressed the following letter to the attorney-general:

"I thought best, once for all, to let you know in plainness what I find of you, and what you shall find of me. You take to yourself a liberty to disgrace and disable my law, my experience, my discretion. What it pleaseth you I pray think of me; I am one that know both mine own wants and other men's, and it may be, perchance, that mine mend, when others stand at a stay. And surely I may not endure, in public place, to be wronged without repelling the same to my best advantage, to right myself. You are great, and therefore have the more enviers, which would be glad to have you paid at another's cost. Since the time I missed the solicitor's place, the rather I think by your means, I cannot expect that you and I shall ever serve as attorney and solicitor together; but either to serve with another at your remove, or to step into some other course; so as I am more free than ever I was from any reason of unworthy conforming myself to you, more than general good manners, or your particular good usage shall provoke; and if you had not been short-sighted

in your own fortune, as I think, you might have had more of me. But that time is passed. I write not this to show my friends what a brave letter I have written to Mr. Attorney; I have none of those humours. But that I have written is to a good end, that is, to the more decent carriage of my master's service, and to our particular better understanding one of another. This letter, if it shall be answered by you in deed, and not in word, I suppose it will not be worse for us both; else it is but a few lines lost, which for a much smaller matter I would have adventured."

It will be collected from these passages, that Bacon had been foiled in his endeavour to become solicitor-general; and that he attributed the disappointment of his expectations to the influence of the attorney-general. As this circumstance would, according to his own statement, have prevented him from holding the post of solicitor while Coke remained in his office, Bacon, who was always keenly alive to his own interest, suppressed his personal dislike of his enemy so far as to exert himself to procure his advancement. Previous to the trial of Sir Walter Raleigh, that is, almost immediately after the accession of James I., Coke had received the honour of knighthood; and it is to be supposed that the active exertions which he subsequently made (1605) in the prosecution of the persons connected with the gunpowder treason, had ingratiated him in the favour of that monarch. The zeal for the cause of the government, and the great professional knowledge which he displayed throughout the whole of the proceedings connected with the conspiracy, but particularly on the trial of the jesuit, Garnet, marked him as a fit subject for promotion. Accordingly in 1606, (having been previously admitted to the rank of serjeant at law,) he was appointed chief justice of the court of Common Pleas. The vacant place of attorney-general was at the same time filled by Sir Henry Hobart, and Bacon became solicitor.

Sir Edward Coke retained his situation of chief justice of the Common Pleas during upwards of seven years. It was a place for which his profound knowledge of the law eminently qualified him; and though he was, probably with justice, reproached for his haughty and unconciliating deportment on the bench, it appears that, upon the whole,

the manner in which he acquitted himself of the duties of his office gained him the highest credit. Bacon, indeed, has accused him of making the law lean too much to his opinion, and using it as a double-edged weapon; but however his conduct in the prosecution of Sir Walter Raleigh may seem to justify such an imputation, there is certainly no proof of it on record, and the general charge, coming from such a quarter, cannot be entitled to implicit credit when unsupported by any corroborative testimony.

It does not appear that Sir Edward Coke ever expressed, or even entertained, a wish to be removed from the court of Common Pleas, unless indeed there might have been an opportunity of raising him to the Woolsack. But Bacon, who was high in favour at court, had his own reasons for wishing that his enemy should be preferred to the chief justiceship of the King's Bench, as by this change Sir Henry Hobart might be advanced to his vacant place in the Common Pleas, and the office of attorney-general would thereby be accessible to himself. In order to bring about these changes, he had recourse to an expedient such as, according to our present notions, must appear equally at variance with discretion and with delicacy. This was no other than drawing up a tract, of which the purport may be learned from the title: "Reasons why it should be exceeding much for his Majesty's service to remove the Lord Coke from the place he now holdeth, to be chief justice of England, and the attorney to succeed him, and the solicitor the attorney." It is remarkable that this document contains an indirect eulogium on Coke's behaviour as a judge, since it admits that he had more than once opposed the views of the king; a line of conduct for which it is impossible to suppose any other motive than fearless and uncompromising integrity in the discharge of his duties. Among the reasons urged for the propriety of appointing him to the King's Bench, it is said that: "The remove of my Lord Coke to a place of less profit, though it be with his will, yet will be thought abroad a kind of discipline to him for opposing himself in the king's causes; the example whereof will contain others in more awe." And in another place it is remarked, that the proposed changes "will strengthen the king's causes

greatly amongst the judges ; for both my Lord Coke will think himself near a privy counsellor's place, and thereupon turn obsequious ; and the attorney-general, a new man, and a grave person, in a judge's place, will come in well to the other, and hold him hard to it, not without emulation between them, who shall please the king best." It is to be supposed that these reasons had their weight with James I, since we find Coke actually appointed chief justice of the King's Bench, (October 25th, 1613,) and the other suggestions of Bacon also complied with, by the promotion of Sir Henry Hobart and himself, Sir Henry Yelverton being preferred to the vacant solicitorship. Shortly afterwards, Sir Edward was sworn a member of the privy council.

However, this change of place had not the effect which Bacon affected to anticipate, of rendering the new chief justice of the King's Bench more pliant and obsequious. He never suffered his complaisance for the king to betray him into a step that was inconsistent with the duty or might detract from the dignity of his judicial office. On one particular occasion, a prosecution for treason being in contemplation against a minister named Peacham, who had written certain libellous passages in one of his sermons, the king wished to have the private opinions of all the judges on the case, before it was officially brought under their notice. Bacon was employed to sound them on the subject, and he encountered little or no opposition from any of them except the lord chief justice. It was Coke's favourite maxim, that he was a judge in a court and not in a chamber ; and on this principle he refused to comply with the wish of his majesty ; maintaining that such a mode of taking private opinions was contrary to the custom of the realm. The letters which Bacon wrote to the king on this occasion contain some curious information, as to the dexterity he employed to gain his master's ends ; but it was without effect. He at length succeeded in persuading Coke to look over the papers connected with the prosecution, and afterwards, by dint of importunity, extorted from him an answer to the questions he had put ; but it was so unsatisfactory, that he declared to the king he was glad for his own exculpation to be able to send it in the chief justice's own hand-writing. This and

other spirited demonstrations of manly integrity are the more likely to attract our admiration, when contrasted with the many specimens of servility displayed by other distinguished characters during the same reign. The difference plainly shows, that Coke was rising superior to the willing obsequiousness which was the vice of his time ; a vice that has left something of its stain on the history of his own early career, whatever the general independence of his conduct in his maturer years may have done towards obliterating it. It is to be recollected, that at this period he had perhaps stronger inducements than most of his contemporaries to court the favour of his sovereign. The continuance of his office was dependent solely on the king's will ; and, as the chancellorship might be expected shortly to be vacant, there was on one hand a prospect of further preferment as a reward for obedience, on the other, the risk of disgrace as a punishment for refractory behaviour. To the honour of Coke, however, he disregarded every consideration but that of duty. One instance, indeed, is recorded of his having judicially promulgated an opinion in favour of those unjust and arbitrary expedients for raising supplies which went by the very inappropriate name of benevolences ; and it is to be supposed that his conduct in this particular, whatever might be the real motive of it, was in effect excellently calculated to propitiate the good graces of James ; but there are several other circumstances which go to prove that his general behaviour on the bench was any thing but that of a courtly sycophant. He never descended in this respect so low as Bacon, whose subserviency to the will of the king was indeed unbounded ; and it is singular that the arts which this intriguing courtier was constantly and successfully employing to injure Coke in the king's estimation, were such as cannot but have a directly contrary effect with regard to the estimation of disinterested judges. This has been already exemplified by the arguments which he used to procure the removal of his enemy from the Common Pleas to the King's Bench ; and a letter which he wrote to King James (in 1615) in order to dissuade him from appointing Sir Edward to succeed Lord Ellesmere on the woolsack, affords another instance of the same kind. In this letter, after enume-

rating several reasons, which do great credit to the person whose advancement they were intended to prevent, he concludes: "Lastly, popular men are no sure mounters for your majesty's saddle."

Two of the most remarkable instances of Sir Edward Coke's having acted a part that rendered him highly obnoxious to the king, are the dispute concerning the power of the Chancery and the celebrated case of the *commendams*; both memorable events in the history of the English jurisprudence. The particulars of both were briefly as follows.

The court of Chancery had long exercised a jurisdiction, which though now conceded to it, had been the subject of frequent complaint, and formed one of the articles against Wolsey, of revising and correcting judgments which had been obtained in the courts of common law. It was not till the reign of James that this privilege had been seriously called in question; the judges of the King's Bench, and particularly Sir Edward Coke, who were extremely tenacious of the authority of their court, then gave it as their opinion that the Chancery had no such right, and that an appeal from a judgment at law could not legally be made, except to parliament. Their doctrine was founded on the words of one of the statutes, which were ~~passed~~ during the reign of Edward III., for the purpose of preventing appeals to the courts of Rome. This statute, without distinctly specifying the papal courts, included them in a general enactment, which provided that whosoever should, after the delivery of a judgment in the king's courts, impeach its authority in any other court, (*en autrui court*,) should incur the penalties of a *præmunire*. According to this express declaration of the act of parliament, the jurisdiction exercised by the court of Chancery over matters which had been already adjudged in the courts of King's Bench and Common Pleas was held to be entirely illegal; and in pursuance of this doctrine Judge Croke, in his charge to the grand jurors of Middlesex, directed them to present any persons who might have called the judgments of those courts in question. Two recent cases, in which appeal had been made to the chancellor, were selected for an example; and it was determined that all the parties who had been privy to the proceedings, including solicitors, suitors, officers of the court, and even a master in Chancery, should be in-

dicted on the statute of Edward III. However, as in consequence of some fraudulent means employed by the parties to the original suit at law, those two cases happened to have been very erroneously and unjustly decided by the King's Bench, they only served to exemplify the expediency of the interference of the court of Chancery; and the grand jurors resolutely persisted in refusing to bring in the bills required of them.

This unusual affair excited a very considerable degree of interest; and a sovereign so tenacious of his prerogative as James, was not likely to let it proceed further without his interference. As Lord Ellesmere was at the time unequal to the task of defending the cause of his court, being afflicted with an illness which was hourly expected to prove fatal, the whole proceedings were reviewed by commissioners whom his majesty appointed for the purpose. According to the memorial which was drawn up, or at least corrected, by Bacon, it appears that the investigation was conducted with great deliberation and impartiality. Care was first taken to examine whether the chancellor had been in fault; that is, whether his course of proceeding in the two cases which had formed the subject of dispute, had not been conformable to acknowledged authority and precedent. The report of the commissioners certified, "that the precedents of that kind were many and precise in the point, and constant, and in good times, and allowed many times by the judges themselves." The question was then put, "Whether, upon apparent matter of equity, which the judges of the law by their place and oath cannot meddle with or relieve, if a judgment be once passed at common law, the subject shall perish, or that the Chancery shall relieve him? and whether there be any statute of *præmunire*, or other, to restrain this power in the chancellor?" Upon mature consultation and advice the answer was, that "the Chancery was not restrained by any statute in that case." The clerks of the King's Bench were next desired to search for precedents of indictments against the Chancery; and on their declaring that they were able to find only two, and those merely of indictments offered or found, on which there had been no further proceeding, his majesty (in the words of the memorial) "thought then it was time to question the misdemeanor and

contempt in scandalizing and dishonouring his justice in that high court of Chancery in so odious a manner." Proceedings were therefore instituted in the star-chamber against the offenders, and the conduct of the judges of the King's Bench was referred to the consideration of the council table.

It is generally admitted that the course pursued by Sir Edward Coke and his associates on this occasion was highly discreditable to them. The whole dispute, as Blackstone justly remarks, did not tend much to the advancement of justice; and it is certain that the violent measures adopted for the sake of asserting the independence of the King's Bench, were wholly inconsistent with the moderation and decorum which ought ever to characterise the measures sanctioned by courts of justice. However, the proceeding at least shows that Coke was not the servile minister of the king's will; and his conduct in the case of the *commendams*, for which he was arraigned at the council table at the same time as for the other offence, will be allowed to merit unqualified admiration.

The practice of giving livings in *commendam* was usually adopted by the crown for the sake of adding to the profits of poor bishoprics, or in some instances of poor benefices. It could only be resorted to in the case of livings to which the right of presentation had, either by lapse or otherwise, devolved upon the king; when the sovereign might *recommend* a clerk as a fit person to discharge the duties till such time as a new incumbent could be regularly appointed. Now it happened that on the occasion of a writ of *quare impedit** brought against the Bishop of Litchfield and Coventry, the defendant pleaded that he held the living in dispute in *commendam*; and, among other important points of law which were involved in the discussion of the case, the right of the sovereign to grant *commendams* was called in question. The king, who perhaps anticipated what would happen, had ordered secretary Winwood, and the Bishop of Winchester, Dr. Bilson, to attend in court during the trial, and make a report to him of the proceedings. The bishop alone,

however, was present at the hearing of the cause, and he gave his majesty to understand that Serjeant Chiborne, who argued against the *commendams*, had maintained several positions prejudicial to the royal prerogative; among others, that the king had only power to grant *commendams* in case of necessity, which necessity could never, in fact, exist, since no clerk was bound to keep hospitality above his means. On the receipt of this information, the attorney-general, Bacon, was immediately directed to acquaint Sir Edward Coke that it was the king's pleasure all further proceedings in the cause should be stayed till the judges could have an opportunity of conferring with his majesty on the subject. At Coke's desire a similar intimation was officially sent to all the other judges, and they assembled together for the purpose of consulting as to the course they should pursue. The result of their deliberation was a resolution to act in every respect as though they had received no notice to suspend the proceedings: and a letter was despatched to James, who was then absent from London, containing a firm but respectful remonstrance against the command that had been addressed to them, together with their reasons for not obeying it. The letter, which is signed by all the twelve judges, bears such honourable testimony to their integrity and independence; and the answer of James is so characteristic of the notions entertained by that weak monarch on the subject of his prerogative, that both deserve to be quoted at length.

"Most dread, and most gracious
Sovereign,

"It may please your most excellent majesty to be advertised that this letter here inclosed was delivered unto me your chief justice, on Thursday last in the afternoon, by a servant of your majesty's attorney-general; and letters of the like effect were on the day following sent from him by his servant to us your majesty's justices of every of the courts at Westminster. We are, and ever will be ready with all faithful and true heart, according to our bounden duties, to serve and obey your majesty, and think ourselves most happy to spend our times and abilities to do your majesty true and faithful service in this present case mentioned in this letter. What information hath been made unto you, whereupon Mr. Attorney doth ground

* *Quare impedit*; literally, *wherefore he prevents*. These two words give the name to the writ in which they occur. It is granted against any one who, by wrongfully procuring a clerk to be instituted in a vacant benefice, prevents the real proprietor of the advowson from exercising his right of presentation.

his letter, from the report of the Bishop of Winton, we know not; this we know, that the true substance of the cause summarily is this: it consisteth principally upon the construction of two acts of parliament, the one of the twenty-fifth year of King Edward III, and the other of the twenty-fifth year of King Henry VIII, whereof your majesty's judges, upon their oaths, and according to their best knowledge and learning, are bound to deliver their true understanding faithfully and uprightly; and the case between two for private interest and inheritance earnestly called for justice and expedition. We hold it our duty to inform your majesty, that our oath is in these express words: that in case any letters come unto us contrary to law, that we do nothing by such letters but certify your majesty thereof, and go forth to do the law, notwithstanding the same letters. We have advisedly considered of the said letter of Mr. Attorney, and with one consent do hold the same to be contrary to law, and such as we could not yield to the same by our oath; assuredly persuading ourselves that your majesty being truly informed that it standeth not with your royal and just pleasure to give way to them, and knowing your majesty's zeal to justice to be most renowned, therefore we have, according to our oaths and duties, at the very day prefixed the last term, proceeded, and thereof certified your majesty, and shall ever pray to the Almighty for your majesty in all honour, health, and happiness, to reign over us."

Serjeant's Inn, 25th April, 1616.

* "James Rex,

"Trusty and well-beloved counsellors, and trusty and well-beloved, we greet you well. We perceive, by your letter, that you conceive the commandment given you by our attorney-general in our name to have proceeded upon wrong information: but if you list to remember what princely care we have ever had, since our coming to this crown, to see justice duly administered to our subjects with all possible expedition, and how far we have ever been from urging the delay thereof in any sort, you may safely persuade yourselves that it was no small reason that moved us to send you that direction. You might very well have spared your labour in informing us of the nature of your oath, for although we never studied the common law of England, yet

we are not ignorant of any points which belong to a king to know; we are therefore to inform you hereby, that we are far from crossing or delaying any thing which may belong to the interest of any private party in this case; but we cannot be contented to suffer the prerogative royal of our crown to be wounded through the sides of a private person: we have no care at all which of the parties shall win this process in this case, so that right prevail, and that justice be truly administered. But on the other side we have reason to foresee that nothing be done in this case which may wound our prerogative in general; and therefore so that we may be sure that nothing shall be debated amongst you which may concern our general power of giving *commendams*, we desire not the parties to have one hour's delay of justice: but that our prerogative should not be wounded in that regard for all times hereafter, upon pretext of private persons' interest, we sent you that direction, which we account as well to be wounded if it be publicly disputed upon, as if any sentence were given against it: we are therefore to admonish you that, since the prerogative of our crown hath been more boldly dealt withal in Westminster Hall, during the time of our reign, than ever it was before in the reigns of divers princes immediately preceding us, that we will no longer endure that popular and unlawful liberty; and therefore we were justly moved to send you that direction to forbear to meddle in a cause of so tender a nature till we had further thought upon it. We have cause indeed to rejoice at your zeal for your speedy execution of justice; but we would be glad that all our subjects might so find the fruits thereof as that no pleas before you were of older date than this is. But as to your argument, which you found upon your oath, you give our predecessors, who first founded the oath, a very charitable meaning, in perverting their intention and zeal to justice, to make a weapon of it to use against their successors; for although your oath be, that you shall not delay justice between any private persons or parties, yet it was not meant that the king should thereby receive harm before he be forewarned thereof; neither can you deny but that every term you will, out of your own discretions, for reasons known unto you, put off either the hearing or determining of any ordinary cause betwixt private per-

ons till the next term following. Our pleasure therefore is, who are the head and fountain of justice under God in our dominions, and we out of our absolute power and authority royal do command you, that you forbear to meddle any further in this plea till our coming to town, and that out of our own mouth you hear our pleasure in this business, which we do out of the care we have, that our prerogative may not receive an unwitting and indirect blow, and not to hinder justice to be administered to any private parties, which no importunities shall persuade us to move you in. Like as only for the avoiding of the unreasonable importunity of suitors in their own particular, that oath was by our predecessors ordained to be ministered unto you. So we wish you heartily well to fare.

"Postscript.—You shall, upon the receipt of this letter, call our attorney-general unto you, who will inform you of the particular points which we are unwilling to be disputed of in this case."

Shortly after this correspondence the king returned to London, and the twelve judges were immediately summoned before the council at Whitehall (June 6th, 1616) to answer for their conduct. His majesty himself recapitulated the principal circumstances that had occurred, and commented with much asperity on the liberties that had been taken with his prerogative. With the formal pendency for which he was conspicuous, he divided the charges against them into faults of matter and manner, and those of matter he distinguished into faults of omission and of commission. The omission consisted in not interrupting and reproving the barrister who had presumed to argue against his prerogative. "He had observed," he said, "that ever since his coming to the crown the popular sort of lawyers had been the men that most affrontedly in all parliament had trodden upon his prerogative, which being most contrary to their vocation of any men, since the law or lawyers can never be respected if the king be not revered; it did therefore best become the judges of any, to check and bridle such impudent lawyers, and in their several benches to disgrace them that bear so little respect to their king's authority." The faults of commission chiefly regarded the letter, to which he took exceptions both in matter and form; in matter, because he

affirmed that the delay which had been required was neither unnecessary nor unjust, that it was merely sufficient for maturity of advice; and that there could not be a more urgent cause for staying the proceedings, than the consulting with the king in a case which so nearly concerned the crown. "As for the form of the letter, his majesty noted that it was a new thing, and very indecent and unfit for subjects to disobey the king's commandment, but most of all to proceed in the mean time and to return to him a bare certificate; whereas they ought to have concluded with the laying down and representing of their reasons modestly to his majesty why they should proceed, and so to have submitted the same to his princely judgment, expecting to hear from him whether they had given him satisfaction."

The report of the proceedings in council, from which the above statement is extracted, goes on to say, that immediately after this declaration of the king the twelve judges fell on their knees and acknowledged their error as to the form of the letter, for which they craved his majesty's gracious favour and pardon; but that Sir Edward Coke entered into a defence of the matter of it, showing that the delay required would have been a delay of justice, and therefore contrary to law and the judge's oath. After some little altercation between the attorney-general and the lord chief justice, this point was referred to the decision of Lord Ellesmere, who gave it as his opinion that the stay which had been required by his majesty was not against the law nor the judge's oath. The judges were then severally asked, "Whether if at any time, in a case depending before them, his majesty conceived it to concern him either in power or profit, and thereupon required to consult with them, and that they should stay proceedings in the mean time, they ought not to stay accordingly?" and they all, with the exception of the lord chief justice, declared that they would. But Sir Edward Coke contented himself with answering that "when the case should be he would do that which should be fit for a judge to do." They were afterwards dismissed; his majesty commanding them "to keep the bounds and limits of their several courts, not to suffer his prerogative to be wounded by rash and unadvised pleading before them, or by new invention of law; for as he well knew the true and ancient common law is the

most favourable for kings of any law in the world, so he advised them to apply their studies to that ancient and best law, and not to extend the power of any other of their courts beyond their due limits, following the precedents of their best ancient judges, in the times of the best government; and that then they might assure themselves that he, for his part, in his protection of them, and expediting of justice, would walk in the steps of ancient and best kings." They were then permitted to proceed in the cause, which was finally decided against the Bishop of Litchfield and Coventry.

It is not to be supposed that this unjustifiable attempt to corrupt the fountain of public justice could have been made without exciting among a large portion of the community a strong feeling of disgust and disaffection towards the government under which it had originated. But we should greatly exaggerate the effect which this transaction must have had on the minds of the people at large, were we to estimate it according to what we might conceive would be the probable consequences of a similar occurrence in our own times. The press did not distribute periodically to the remotest corners of the kingdom a knowledge of those affairs in which every member of the state is concerned; nor was this attack on the liberties of the people of a nature such as necessarily to attain (like the case of the ship money, for example) immediate publicity. But this adds to the merit of Coke. He could not have been excited to act thus by the mere wish of courting popularity. Unfortunately, too, had he been inclined to search for precedents of corruption among his predecessors on the bench, by way of authorizing his compliance with the king's wishes, he would have found many instances well suited to his purpose. Indeed, obedience to the will of the sovereign was considered, in some sort, the duty of the judges, at a time when they held their offices by no safer tenure than the meanest servant of his household. Sir Edward Coke was perhaps the first who set the example of strict independence on the bench. After the Stuarts were finally driven from the throne, and a rational system of civil liberty had been established, it was wisely considered, that the surest method of ensuring for the future the just and impartial administration of the laws, would be to maintain, in their utmost purity, the

independence, the integrity, and the dignity of the judges. Accordingly, during the reign of William III., it was enacted, that only the address of both houses of parliament should be capable of procuring their removal from the bench. Unfortunately for James, and still more so for his successor, they could never understand (what it now needs no argument to prove) that the honour of the crown and the liberty of the subject can mutually support each other.

The firm and resolute conduct of the lord chief justice had given great umbrage to the king. It is supposed that this weak monarch, in addition to his other reasons for being displeased with Coke, had a mean jealousy of the popularity he had acquired. It was evident, indeed, that the fearless integrity which had thwarted his majesty's views was the principal cause of that popularity; and the circumstance did not escape the attention of James, who afterwards remarked that Sir Edward Coke had obtained it without "having in his nature one part of those things which are popular in men, being neither civil, nor affable, nor magnificent." He had, however, taken the surest means to acquire the lasting and deserved esteem of his countrymen. This was not the only occasion on which he had protected the rights of the nation against the arbitrary and unconstitutional encroachments of that prerogative, the undue exercise of which alienated from James the affections of his people, and brought his successor to the scaffold. He had more than once countenanced appeals to the King's Bench from the judgments of the commissioners of sewers, for whom, it is well known, extraordinary and illegal powers had been created. The privy council subsequently claimed the sole right of hearing complaints against these commissioners, and several persons who had brought actions against them at common law were committed to prison; but these violent measures, though not openly resisted, were sufficiently censured by the public opinion to recall the memory of the obligations due to him who had upheld the rights of the people. However, those actions which were calculated to excite the esteem or the admiration of the friends of civil liberty, were exactly those which were most likely to injure the author of them in the favour of James; and the conduct of Coke,

with regard to the commissioners of sewers, had been such as particularly to draw down on him the enmity of the council.

Nor were these the only clouds that were lowering over him. In the preceding year, in his capacity of lord chief justice, he had been actively and zealously engaged in the investigation of the circumstances connected with the atrocious murder of Sir Thomas Overbury. In the course of the inquiry which took place relative to this assassination it was proved that it had been perpetrated by the favourite, Somerset, and Lady Essex, between whom Overbury had discovered, and endeavoured to prevent, an illicit intercourse. The circumstances of the case were peculiarly revolting. The victim of their resentment had been, under some slight pretext, conveyed a prisoner to the Tower; and the lieutenant-governor was induced to become a party to the plot that was laid for his destruction. After several ineffectual attempts, he was at length killed by a violent poison. The crime remained some years unpunished, but at length a strict inquiry was set on foot. It was found that several subordinate agents had been participators in it, and these suffered the death they had justly deserved. Somerset and Lady Essex escaped with their lives; but the downfall of the favourite was the consequence of the discovery; and Coke, who had been indefatigable in his endeavours to detect the perpetrators of the crime, was consequently in no small degree instrumental in procuring his disgrace. It is needless to add that this made him many and very powerful enemies; and it is not to be supposed but that they availed themselves of the opportunity which now presented itself for poisoning the ear of the king against him. Indeed, James himself is supposed to have harboured a deep feeling of resentment against the lord chief justice, on account of certain mysterious hints which are said to have escaped him during the trial of Somerset and his accomplices. It is certain that whispers concerning some secret transaction in which the king was implicated, had been circulated about the court soon after the institution of legal proceedings against the murderers of Sir Thomas Overbury; and many have not scrupled to believe (though without much foundation for the story)

that they related to the poisoning of the hope of the nation, the young prince Henry; a crime very generally attributed at the time to Viscountess Rochester, though James (however unjustly) has not entirely escaped the suspicion of being privy to the death of his own son. It was natural that the persons who credited and gave countenance to such rumours should be personally odious to the king, nor is it improbable that such a motive should have weighed with him even stronger than political reasons, when he determined on removing Coke from his post. Sir George Villiers also, who afterwards became Duke of Buckingham, having been thwarted by the chief justice in his endeavours to procure the reversion of a lucrative situation in the court of King's Bench, did not neglect an occasion so favourable for the exercise of his resentment, which his influence with James rendered sufficiently formidable. All these circumstances combined to produce Sir Edward Coke's disgrace; but the avowed cause of it was his conduct in the case of the *commendams*. For this he was arraigned in the privy-council. The accusation against him was reduced to three heads: 1. an act done; 2. speeches of high contempt uttered in the seat of justice; 3. uncomely and undutiful carriage in the presence of his majesty, the privy-council, and judges. These charges having been officially notified to him, on the 30th of June, 1616, he was again summoned before the council, where, on his knees, he received intimation of the sentence which the king had passed on him. The substance of it was, that he should be sequestered from the council-table till his majesty's pleasure was further known; that he should forbear from riding his summer circuit as justice of assize; and that, during the vacation, he should employ his leisure in revising and correcting his Reports, in which the pedantic despot, James, declared that Coke had uttered for law many dangerous conceits of his own, to the prejudice of his crown, parliament, and subjects. It will scarcely be credited, that one of the charges brought against the lord chief justice was, that his coachman used to ride bareheaded before him; a mark of dignity which it was said he was by no means entitled to assume, and of which the earl marshal must take notice. To this Sir Edward Coke (very innocently no doubt) replied, that

his coachman did so for his own convenience, and not in consequence of any orders having been given him to that effect. A few months afterwards (Nov. 15th) he was altogether removed from the chief justiceship, and his place was supplied by Sir Henry Montague, the recorder of London. It is worthy of observation, that the new judge was not appointed until he had entered into a written engagement with Buckingham, by which he agreed to put the trustees of the favourite in possession of the situation he had been deprived of through the influence of Sir Edward Coke. This fact sufficiently shows what was the principal cause of Coke's removal from the bench. It may also in some measure explain why he was first suspended, and afterwards entirely removed; the intermediate time being no doubt left him to propitiate the good grace of Buckingham by submission to his wishes. If this be the case, it must reflect eternal honour on Coke, that he preferred renouncing his office altogether to procuring his continuance in it by unworthy means. This is one of a thousand instances in which proud integrity has fallen a sacrifice to the machinations of interested cabal and court intrigue.

Coke, however, did not remain long in disgrace. Some time before his removal from the bench, a negotiation had been set on foot concerning the marriage of his youngest daughter with Sir John Villiers, the brother of the Earl of Buckingham. He had then refused his consent to the match; but it is to be supposed, that the growing influence of the favourite, and the change that had been wrought in his own fortune, afterwards made him sensible of the advantages to be derived from so powerful an alliance, so that he was not indisposed to listen to a renewal of the same overtures, when a change in the relative situation of both parties had rendered an union between them more desirable. As to the sentiments the young lady herself might entertain on the subject, they appear not to have been thought worthy of the slightest consideration. Coke had himself consulted his interest alone in his own marriage with Lady Hatton, from whom he had long lived almost wholly estranged; and he was not of a character to sacrifice his own advancement to the inclination of his daughter. It was

through the medium of Secretary Winwood that the match was at length effected. That minister had felt himself offended by a certain tone of superiority which Bacon, on being promoted to the office of lord keeper, had thought proper to assume towards him; and it thenceforward became his study to raise up Coke from the disgrace into which he had fallen. With this view he obtained permission to renew the negotiation which had before been broken off, relative to the alliance with the family of the favourite. Buckingham, tempted by the offer of a large marriage portion which Coke promised with his daughter, immediately consented to the match; but it was not effected without considerable difficulty. Lady Hatton, who was always at variance with her husband, had a dislike to a connexion with the family of the Villiers, and was probably offended that she had not been in the first instance made privy to the negotiation. As she was a woman of masculine spirit, she determined to oppose the match; and accordingly, after pretending in vain to allege a contract with Lord Oxford, as a reason why the marriage could not take place, she caused her daughter to be secretly conveyed to the house of Sir Edmund Withipole, near Otlands, whence she was afterwards removed to a residence of the Lord of Argyle's, in the neighbourhood of Hampton Court. Sir Edward, on finding his daughter had been sent from home, applied for a warrant to reclaim her; but in the mean time becoming acquainted with the place of her concealment, he determined on instantly rescuing her by force. Accompanied, accordingly, by his son and by about a dozen well armed men he proceeded to Hampton Court, tore down the doors of the house where she was confined, and carried her away. Lady Hatton having no other means of redress, appealed to the privy council; and thus this domestic quarrel became at length an affair of state.

The lord keeper, Bacon, used every exertion to prevent the match, which he was aware would be the means of reestablishing Coke in the king's favour. It is supposed to have been at his instigation that proceedings were instituted in the Star-Chamber against the perpetrator of this outrage, as the forcible rescue was affectingly called; though he could not but know that it was an act per-

fectly justifiable by law. This was not the only step he took towards breaking off the intended marriage. The following letter was addressed by him to the Earl of Buckingham :—

My very good Lord,
I shall write to your lordship of a business which your lordship may think to concern myself; but I do think it concerneth your lordship much more. For as for me, as my judgment is not so weak to think it can do me any hurt, so my love to you is so strong, as I would prefer the good of you and yours before mine own particular. It seemeth Secretary Winwood hath officiously busied himself to make a match between your brother and Sir Edward Coke; and as we hear, he doth it rather to make a faction than out of any great affection to your lordship. It is true he hath the consent of Sir Edward Coke, (as we hear,) upon reasonable conditions for your brother, and yet not better than without question may be found in some other matches. But your mother's consent is not had, nor the young gentlewoman's, who expecteth a great fortune from her mother, which without her consent is endangered. This match, out of my faith and freedom to your lordship, I hold very inconvenient both for your brother and yourself.

First, he shall marry into a disgraced house, which in reason of state is never held good.

Next, he shall marry into a troubled house of man and wife, which in religion and christian discretion is disliked.

Thirdly, your lordship will go near to lose all such your friends as are adverse to Sir Edward Coke, (myself only excepted, who out of a pure love and thankfulness shall ever be firm to you.)

And lastly and chiefly, (believe it,) it will greatly weaken and distrust your service. For though in regard of the king's great wisdom and depth I am persuaded those things will not follow, which they imagine; yet opinion will do a great deal of harm and cast the king back, and make him relapse into those inconveniences which are now well on to be recovered.

Therefore my advice is, and your lordship shall do yourself a great deal of honour, if, according to religion and the love of God, your lordship will signify unto my lady your mother that your desire is that the marriage be not pressed or proceeded in without the

consent of both parents; and so either break it altogether, or defer any further delay in it till your lordship's return. And this the rather for that (besides the inconvenience of the matter itself) it hath been carried so harshly and inconsiderately by Secretary Winwood, as for doubt that the father should take away the maiden by force, your mother to get the start hath conveyed her away secretly, which is ill of all sides. Thus, hoping your lordship will not only accept well, but believe my faithful advice, who by my great experience in the world must needs see further than your lordship can, I ever rest, your lordship's true and most devoted friend and servant,
FRANCIS BACON.

In another letter which he wrote to the king on the same subject, the following passage occurs :—

"Your majesty's prerogative and authority have risen some just degrees above the horizon more than heretofore; which hath dispersed vapours: your judges are in good temper, your justices of peace (which is the great body of the gentlemen of England) grow to be loving and obsequious, and to be weary of the humour of ruffling: all mutinous spirits grow to be a little poor, and to draw in their horns; and not the less for your majesty's disauctorizing the man I speak of. Now then I reasonably doubt that if there be but an opinion of his coming in with the strength of such an alliance, it will give a turn and relapse in men's minds into the former state of things, hardly to be holpen, to the great weakening of your majesty's service."

Again: "he is by nature unsociable, and by habit popular, and too old to take a new plye. And men begin already to collect, yea, and to conclude that he that raiseth such a smoke to get in, will set all on fire when he is in."

The lord keeper was not content with taking such measures as these: he even ventured to threaten Winwood with a *præmunire* for having granted the warrant. But in this he went too far. Buckingham was highly incensed with his conduct, and even the king, who was on his return from Scotland, wrote him a severe letter on the subject (25th July, 1617.) "Every wrong," he said, "must be judged by the first violent and wrongous ground, whereupon it proceeds. And was not the theftous stealing away of the

daughter from her own father the first ground whereupon all this great noise hath since proceeded? For the ground of her getting again came upon a lawful and ordinary warrant, subscribed by one of our council, for redress of the former violence; and except the father of a child might be proved to be either lunatic or idiot, we never read in any law that either it could be lawful for any creature to steal his child from him, or that it was a matter of noise and streperous carriage for him to hunt for the recovery of his child again. Whereas you talk of the riot and violence committed by him, we wonder you make no mention of the riot and violence of them that stole away his daughter, which was the first ground of all that noise, as we said before. For a man may be compelled by manifest wrong beyond his patience; and the first breach of that quietness, which hath ever been kept since the beginning of our journey, was made by them that committed the theft. And for your laying the burden of your opposition upon the council, we meddle not with that question; but the opposition, which we justly find fault with you, was the refusal to sign a warrant for the father to the recovery of his child, clad with those circumstances, as is reported, of your slight carriage to Buckingham's mother, when she repaired to you upon so reasonable an errand. What farther opposition you made in that business, we leave it to the due trial in the own time. But whereas you would distinguish of times, pretending ignorance either of our meaning or his, when you made your opposition; that would have served for a reasonable excuse not to have furthered such a business till you had been first employed in it; but that can serve for no excuse of crossing any thing that so nearly concerned one, whom you profess such friendship unto. We will not speak of obligation; for surely we think, even in good manners, you had reason not to have crossed any thing, wherein you had heard his name used, till you had heard from him. For if you had willingly given your consent and hand to the recovery of the young gentlewoman; and then written both to us and to him what inconvenience appeared to you to be in such a match; that had been the part indeed of a true servant to us, and a true friend to him. But first to

make an opposition, and then to give advice by way of friendship, is to make the plough go before the horse." It appears that at this time, or at least very shortly after it, Coke was reinstated (probably by the mediation of the favourite) in the good graces of his majesty, whose party he joined as it returned from Scotland. On the 3d of September, Sir Henry Yelverton, who was also among the king's followers, wrote to the lord keeper from Daventry, warning him of the danger he had incurred by his opposition to Buckingham. In the same letter he remarks: "Sir Edward Coke, as if he were already upon his wings, triumphs exceedingly; hath much private conference with his majesty; and in public doth offer himself; and thrust upon the king, with as great boldness of speech as heretofore. It is thought, and much feared, that at Woodstock he will again be recalled to the council table; for neither are the earl's ears, nor his thoughts, ever off him." This report was not without foundation; for on the very day of the king's arrival in London (15th September, 1617) the late lord chief justice was restored to his place in the privy council. Whatever obstacles still remained in the way of the marriage were now finally removed. Proceedings had been instituted in the star-chamber, at the suit of Lady Hatton, against her husband; but they had been arrested by the king's order; and she was for some time placed in confinement. At length Lady Compton, the Earl of Buckingham's mother, prevailed on her to discontinue the action, and finally to give her consent to the match, which was accordingly concluded with great pomp.

Sir Edward Coke, however, still remained at variance with his wife. Their quarrels were not merely the effect of occasional ebullitions of temper, such as may disturb the domestic comforts of a family for awhile, without causing any permanent disunion among the members of it. Lady Hatton was a woman of a haughty and imperious character, who was constantly on the watch for opportunities to remind her husband how much he was indebted to her for the honour and the wealth he had derived from her alliance. On the other hand, the deportment of Sir Edward Coke had nothing conciliatory in it; and, indeed, if we are to form

our opinion of his temper from the ebullitions of it which he could not control even in public, it was very far from being of a nature to render him, under any circumstances, an amiable husband or father of a family. Domestic happiness they never enjoyed together. They had separate houses and separate establishments; Sir Edward occasionally occupying his chambers in the Temple, while his lady fixed her residence at Hatton House, in Holborn; or retiring to his seat at Stoke Pogies, in Buckinghamshire, (the same which is now the residence of the descendant and representative of the celebrated William Penn,) when she either remained in London, or tenanted her mansion of Corfe Castle. Among other subjects of angry contention between them, these different dwellings and their appurtenances formed a fertile theme for dispute. At one time we find Sir Edward publicly accusing his wife of having purloined his plate, and substituted counterfeit *alkumy* in its place, with intent to defraud him. On another occasion, Lady Hatton complains of his seizing her coach, coach-horses, and wearing apparel, maltreating her servants, and causing her to suffer "beyond the measure of any wife, mother, or even any ordinary woman in the kingdom." It might be supposed that when she had been persuaded to give her consent to her daughter's union with Villiers, some show at least of reconciliation with her husband would have taken place; but this was not the case; and the very day on which she gave a magnificent entertainment in honour of the marriage, Sir Edward, uninvited and unnoticed by his wife, dined in the Temple. There exists abundant testimony that their mutual resentment, and it may almost be said hatred, against each other, was cherished for some time after this period. At the end of four years (1621) they were in some degree reconciled by the personal interference of the king, who undertook to be the mediator between them; but they always remained strangers to domestic happiness. As for their daughter, who had from the beginning expressed a strong dislike to Sir John Villiers, her marriage, as might have been expected, was an unhappy one.

So soon as a probability had appeared of Sir Edward's being reinstated in the king's favour, the wary courtier,

Bacon, had dropped all appearance of resentment against him; and had even taken the trouble to explain away some parts of his conduct towards him. He was also particularly careful to repair the fault he had committed with regard to Buckingham, by assiduous endeavours to propitiate the good graces of the favourite. A short extract from a letter which he wrote to King James, with the view of deprecating the anger of that monarch occasioned by his opposition to the marriage of Coke's daughter, will sufficiently illustrate these facts. "It is true," he says, "that in those matters which, by your majesty's commandment and reference, came before the table concerning Sir Edward Coke, I was sometimes sharp, it may be too much; but it was with the end to have your majesty's will performed; or else when methought he was more peremptory than became him, in respect of the honour of the table. It is true also, that I disliked the riot or violence, whereof we of our council gave your majesty advertisement by our joint letter: and I disliked it the more, because he justified it to be law; which was his old song. But in that act of council, which was made thereupon, I did not see but all my lords were as forward as myself," &c. And again, alluding to an intimation given him by the Earl of Buckingham, for whom he had just professed his readiness to spend his life, he adds: "After I had received, by a former letter of his lordship, knowledge of his mind, I think Sir Edward Coke himself, the last time he was before the lords, might particularly perceive an alteration in my carriage. And now that your majesty hath been pleased to open yourself to me, I shall be willing to further the match by any thing, that shall be desired of me, or that is in my power." In consequence of this disposition, a reconciliation appears to have taken place between the lord keeper and Coke; and accordingly we find no traces of animosity in the conduct of the latter, when, at a subsequent period, (1621,) he was called upon to take a share in the proceedings which terminated in the disgrace of Bacon.

Sir Edward Coke was a member of the parliament which necessity rather than inclination forced the king to summon in 1621; and the same upright and independent spirit, which had done him so much honour in the affair of the

commendams, again manifested itself in his deportment while he retained his seat in the commons. But here he stood not alone. The representatives of the people, who in former reigns had been without power or influence in the political world, had at length become sensible of their own importance, and had already begun to assert the dignity and independence of their body. Previous to the reign of James I. their assent had indeed been necessary for the enactment of statutes, and the granting of supplies, but they had seldom or never attempted to take cognizance of any concerns of the state that were not immediately connected with these privileges. As to freedom of debate, it was altogether unknown in the assembly. Some faint attempts had been made during the reign of Elizabeth to uphold such a right; but they had been peremptorily checked by the queen; and the great popularity of her government, at a time when she held the parliament in the most strict submission to her will, is a convincing proof that the importance of this body was very far from being adequately appreciated in her time. When the commons ventured to recommend that she would provide for the succession; when they proposed new regulations for the amelioration of the church establishment, or urged the reformation of some flagrant abuses of prerogative, it does not appear to have excited either surprise or indignation that they should be severely reprimanded for their presumption, and be desired not to meddle for the future with what was above their capacity. Even while Sir Edward Coke had been speaker of the house, in 1592, the queen had expressly prohibited the members from arguing on matters of state, and had given them to understand that their freedom of speech extended no farther than the mere utterance of *ay* or *no*, without comment or observation. This intimation was not meant as an idle threat. The independent and spirited Peter Wentworth was sent to the Tower for venturing to disregard it; and three other members who had abetted him were also thrown into prison by the queen's order. Their release was not effected by the interposition of the house. Certain privy councillors recommended that the idea of a petition for that purpose should be given up, lest it might only serve to irritate her majesty still further; and this advice, instead of calling forth the indignation of those to

whom it was addressed, was not only received with thankfulness and humility, but was moreover acted upon. The idea of steadfastly resisting the arbitrary imprisonment of one of their body, as a breach of their most important privilege, seems never to have been entertained, much less expressed, by the intimidated commons of that period. Indeed their notions in general, whether real or affected, concerning the extent of the royal prerogative, were entirely at variance with just ideas of the liberty of the subject, and consequently of the independence of their own body. To be convinced of this it is sufficient to look over the speeches that were made in the 43d of Elizabeth's reign, particularly when the subject of monopolies was brought under the consideration of parliament; discourses, as Hume has well remarked, more worthy of a Turkish divan than of an English house of commons.

However, the leaven of spirit and of independence which did exist, though it must be allowed in a very small degree, in the parliaments of Elizabeth spread rapidly through the assembly. A difference might be remarked in the temper of the house of commons even towards the latter part of her reign. In the 23d of Elizabeth, they suffered the chancellor to issue new writs for the places of members whom, under any pretext, he might judge incapable of attending their duties; but at a later period this dangerous practice did not escape their censure; and though they were as usual reprimanded by the queen for presuming to meddle in matters which, according to her, were not in their province, they had spirit enough to propose a motion, declaring that the discussion of such cases belonged solely to the house. This privilege of deciding all questions relative to the customs and the constitution of their body, they strenuously asserted in the 2d of James I. inasmuch that the king, who at the beginning of the discussion had talked loudly of his absolute power, and the authority of his royal prerogative, found it expedient to propose a compromise of the difference that had arisen between himself and the commons. Even Elizabeth, though she had on all occasions maintained her dignity unimpaired, had more than once found it expedient to make concessions, rather than come to an open rupture with her parliament. At the same time that her messages to the house were conceived in terms of the most haughty

and indignant displeasure, it sometimes did not require much penetration to see that a certain degree of fear lurked behind this show of firmness. With James this was much more apparent. We find him, after the example of his predecessor, desiring the parliament not to interfere in matters beyond their capacity; reminding them that all their privileges were derived from the special grace of himself and his ancestors; and maintaining that it was highly impertinent in them even to reason upon what he as an absolute king might do in the height of his power; but these empty speeches were often merely designed as a mask to cover the real apprehensions he could not but feel for the fate of his cherished prerogative. Whatever fears he entertained on the subject, he certainly pursued a method very ill calculated to remove the cause of them. The commons of England were no longer to be frightened into concessions; and when the necessities of the king obliged him to assemble them in 1621, they were fully prepared to resist every attack that might be made on their privileges. The result of the contest which ensued was such as might have been anticipated. The memorable proceedings which took place during the existence of this parliament, and particularly in the second session of it, are familiar to all who are conversant with the history of our constitution. The fruitless attempts of James to crush the rising spirit of liberty which animated the whole nation; the remonstrances made by the representatives of the people; and the unfounded pretensions of the king, who endeavoured to strike at the root of all their privileges, called forth that celebrated protestation of the commons, in which they declared: "that the liberties, franchises, privileges, and jurisdictions of parliament, are the ancient and undoubted birth-right and inheritance of the subjects of England." In all these proceedings, Sir Edward Coke, who was one of the leading members on the popular side, took an active part; and the consequence was, that he was committed to the Tower, (27th December, 1621,) and subsequently dismissed from the privy council. He had been treated with much distinction and confidence ever since he had been reinstated to his place at the council table; and it has been doubted what motive could induce him so suddenly to become an opponent of the interests of the crown. But it

should be recollected, that the change was in reality by no means a sudden one. His conduct, not only in the case of the *commendams*, but on many other occasions, had proved that he was an enemy to the arbitrary exercise of the royal prerogative; and it must be allowed, that the evident intentions of infringing on the liberties of the people, which were continually displayed by the king, but more particularly about the time when the parliament was first called, were calculated to inspire every real friend of his country with a resolution to oppose them.

James was highly incensed at the audacity which Coke had shown in opposing the crown; and several expedients were tried, in order to punish indirectly what it would have been imprudent and dangerous to visit openly with a heavy infliction. On Sir Edward's committal to the Tower, his chambers were broken open, and his papers seized, probably with the hope of discovering some writings which might furnish matter for a criminal prosecution. This expectation, however, was disappointed; and two other attempts which were made to injure him, (the one by endeavouring to prove him guilty of misconduct during the trial of Somerset, the other by a prosecution for debt,) succeeded no better. Some years afterwards, (1625,) his independent spirit again excited the resentment of the court against him; and he was ordered by the king to execute a commission in Ireland; an unjustifiable pretext often resorted to at that time, for the purpose of removing obnoxious persons. However, his departure from England does not appear to have been eventually insisted upon, and his popularity was, in all probability considerably increased by the expectation of his compulsory absence.

On the accession of Charles I. to the throne, Sir Edward Coke was among the number of those who waited on him with assurances of respect and loyalty; but the new monarch refused him admission to his presence; and that he might be prevented from resuming his seat in parliament, he was afterwards appointed high sheriff for Buckinghamshire. It was to no purpose that he urged several objections against his serving the office; they were overruled by the council, and he was compelled to yield. It will be remarked, that such a situation as that of high sheriff, however honourable and distinguished it may be usually

considered, could not be filled by one who had lately occupied the station of lord chief justice, without his being subjected to a mortifying exhibition of his fallen fortunes; since his duty at the assizes required him to attend on the judges, who had so recently been his inferiors; and it is more than probable that his enemies at court had calculated on exposing him to this insult, when they forced him to accept the charge. It was not till the year 1628, that he again became a member of the House of Commons. He took his seat as knight of the shire for Bucks, being at the time in his seventy-ninth year; and, notwithstanding his advanced age, bore a leading part in the proceedings that took place during that memorable session. It was then that the commons of England, united as in one common cause, first made a resolute and successful resistance against those encroachments of the royal prerogative, which, if ratified by the acquiescence of the nation, would have reduced the freedom of our constitution to a mere shadow. The grievances that called loudly for redress were heavy and numerous. Those which most particularly excited the indignation of parliament were the extortions of various kinds, by which the security of the subject's property had been invaded, and the despotic violation of his personal liberty by arbitrary and illegal imprisonment. The unconstitutional means which had been employed for the raising of subsidies, such as the billeting of soldiers, and the exaction of loans by benevolence and privy seal, were the first of these topics that came under discussion; and Sir Edward Coke was one of the members who took the greatest share in the debate to which it gave rise. An extract from his speech on this occasion, will serve the double purpose of showing the manly independence of his sentiments, and the peculiarity of his style of oratory. "Let us not flatter ourselves," he said: "who will give subsidies if your king may impose what he will; and if, after parliament, the king may enhance what he pleaseth? I know your king will not do it; I know he is a religious king, free from personal vices; but he deals with other men's hands, and sees with other men's eyes. Will any give a subsidy that will be taxed after parliament at pleasure? Your king cannot tax by way of loans. I differ from those who would have this of loans go amongst

grievances; but I would have it go alone. I will begin with a noble record: it cheers me to think of it—25 Edward III.; it is worthy to be written in letters of gold. Loans against the will of the subject are against reason, and the franchises of the land, and they desire restitution. What a word is that franchise? The lord may tax his villain high and low, but it is against the franchises of the land for freemen to be taxed but by their consent in parliament. Franchise is a French word, and in Latin it is *libertas*. In *Magna Charta* it is provided that: *Nullus liber homo capiatur, vel imprisonetur, aut disseisietur de libero tenemento suo, &c., nisi per legale iudicium parium suorum, vel per legem terræ.** Which charter hath been confirmed by good kings above thirty times."

The result of this debate was a vote of the house declaring: "That it is the ancient and indubitable right of every freeman, that he hath a full and absolute property in his goods and estate; that no tax, tallage, loan, benevolence, or other like charge, ought to be commanded or levied by the king, or any of his ministers, without common consent by act of parliament."

Before this spirited declaration of the house had been made, some persons who had refused to obey the order for a loan had been committed to prison, solely on the king's order; the privilege of the *habeas corpus* had formally been disallowed them by the courts, and it had been declared that a person confined by the royal authority could not be bailed. On this subject Sir Edward Coke expressed himself thus: "What is this," said he, "but to declare upon record that any subject committed by such absolute command, may be detained in prison for ever? What doth this tend to, but the utter subversion of the choice, liberty, and right belonging to every free-born subject of this kingdom? I fear, were it not for this parliament that followed so close after the form of judgment was drawn up, there would have been hard putting to have had it entered; but a parliament brings judges, officers, and all men into good order." The discussion being resumed on a subsequent day, in the course of his speech, Coke said: "It is a maxim, the common law hath admeasured the king's prerogative, that in no case it can

* No freeman shall be taken, or imprisoned, or deprived of his freehold, but by the lawful judgment of his peers, or the law of the land.

prejudice the inheritance of the subjects. Had the law given the prerogative to that which is taken, it would have set some time to it, else mark what would follow. I shall have an estate of inheritance for life or for years in my land, or propriety in my goods, and I shall be tenant at will for my liberty: I shall have propriety in my own house, and not liberty in my person. *Perspicue vera non sunt probanda.* The king hath distributed his judicial power to courts of justice and to ministers of justice. It is too low for so great a monarch as the king is to commit men to prison; and it is against law, that men should be committed, and no cause shewed. I would not speak this, but that I hope my gracious king will hear of it: yet it is not I, Edward Coke, that speaks it, but the records that spake it. We have a national appropriate law to this nation, *divisis ab orbe Britannis.* I will conclude with the Acts of the Apostles, ch. 25. *It is against reason to send a man to prison, and not to show the cause."*

After this speech, on the question being put, it was resolved:

I. That no freeman ought to be detained or kept in prison, or otherwise restrained by the command of the king, or privy council, or any other, unless some cause of the commitment, detainer, or restraint be expressed; for which by law he ought to be committed, detained, or restrained.

II. That the writ of *habeas corpus* may not be denied, but ought to be granted to every man that is committed or detained in prison, or otherwise restrained, though it be by the command of the king, the privy council, or any other, he praying the same.

III. That if a freeman be committed or detained in prison, or otherwise restrained by the command of the king, privy council, or any other, no cause of such commitment, detainer, or restraint, being expressed, for which by law he ought to be committed, detained, or restrained, and the same be returned upon a *habeas corpus* granted for the said party, then he ought to be delivered or bailed.

Sir Edward Coke joined in framing not only these, but several other spirited remonstrances which the king's arbitrary conduct called forth from the representatives of the nation; and it is well known that they were not contented with remonstrances alone. The *Petition of Rights* was their work; and

for this celebrated statute, which forms one of the proudest epochs in the history of the English constitution, we are partly indebted to his exertions. He was also principally instrumental in procuring that earnest remonstrance against the Duke of Buckingham, which was in effect directed against all the measures that had been pursued by the ministry. Shortly afterwards, the session of parliament was brought to a close, and with it finished his public career.

The remainder of his life was spent in retirement, chiefly at his house at Stoke-Pogies, in Buckinghamshire, where he enjoyed that high consideration and respect to which his talents, his character, and his station in society justly entitled him. But even in his last retirement his active mind was not without employment; and it may reasonably be conjectured that a great part of his time was devoted to the revision of the works he left behind him unpublished. To the end of his life, though secluded from politics and from the world, he was looked upon by the court with an eye of jealousy and suspicion. While he was on his death-bed, his house was searched for seditious writings, and his numerous manuscripts, together with his will, were carried away. The former were not restored to his family till ten years afterwards; and the latter was never given up. He closed his long and useful career (September 3rd, 1634,) exclaiming in his last moments: "Thy kingdom come, thy will be done." His remains were interred in the church of Titchshall in Norfolk, the family burial place of the Coke family.

Sir Edward Coke was gifted with the advantages of a fine person and commanding appearance. The bust of him which is preserved in the library at Trinity College, Cambridge, and the portrait which hangs in the hall of Lyon's Inn, represent him as having handsome and regular features, with a gravity of countenance to which the costume of his time, and particularly the long pointed beard, did not a little contribute. He was at all times particularly attentive to his apparel and general personal appearance, holding it for a maxim that the exterior neatness of the body ought to be emblematic of the inward soul's purity. It may be considered perhaps a proof rather of his honest pride in having fearlessly performed his duty, than of his taste for show and ornament in dress, that he refused to part with his

judge's collar on his removal from the bench, alleging as his reason, that he would leave it to his posterity for a memorial that they had a chief justice among their ancestors. He used to boast that all his honours had been obtained without bribery or solicitation (*nec prece nec pretio*;) and would often give solemn thanks to God that he never gave his body to physic, his heart to cruelty, nor his hand to corruption. In his habits and manner of living Coke appears to have indulged in a little eccentricity. He was more exclusively a lawyer than most of his contemporaries, who were wont to relax from their severer studies in the occasional pursuit of lighter and more agreeable occupations. Music, dancing, fencing, and all the minor accomplishments considered necessary to perfect the education of a gentleman, were in his time regularly taught in the inns of court, which were placed very much on the same footing as our universities are at present; the members, and particularly the students, being subjected to many other restraints, besides that of attending hall during term, now almost the only remaining vestige of academical discipline. We are not informed that Coke at any time distinguished himself (as many great lawyers have done) in the diversions and entertainments so frequently presented by the members of the inns of court. Indeed, his mind appears not to have been endowed in any degree with the attribute of versatility; and the study or practice of the law engrossed all its energies. If he ever wandered from it, divinity became his theme. Every hour of his time was regularly and systematically apportioned; a method of which those only who have felt the pressure of constant and various employment can fully appreciate the advantages. The six hours of sleep (with which in one of his incidental snatches of advice to his readers, he enjoins the student of law to content himself,) he used to enjoy at a very extraordinary season, making it his constant practice to retire to rest at nine o'clock, and to rise at three. To this custom he was so habituated, that if disturbed during that period he was totally unfit for business all the remainder of the day; insomuch that, if we can rely on the information of his grandson, Roger Coke, his son refused to awaken him before his usual time, even on the arrival of an important express from the king. It is probable that

to this extreme regularity of life he was in great measure indebted for the health and longevity he enjoyed.

His family consisted of seven sons and five daughters, two of the latter being by his second wife. The fortune which he left behind him, increased as it had been by two advantageous marriages, by the successful exercise of his profession, and by habits of frugality, was very large; and his descendants have ever since his time been among the most wealthy of the gentry of England. During the reign of George I. his lineal representative in the male line was raised to the peerage, with the title of Baron Lovell, and he afterwards became Viscount Coke and Earl of Leicester. This title now no longer exists, but the present head of the family, Thomas Coke, Esq. of Holkham, in Norfolk, in point of wealth and consequence, may rank with the first commoners of this realm.

After what has been related of Sir Edward Coke's life, it is needless to expatiate on his character. His temper was evidently violent, and his disposition overbearing. In the early part of his career, there were no bounds to his obsequiousness: after he had attained the object of his ambition, it has been seen that his conduct was any thing but that of a servile courtier; a contradiction that can only be accounted for, by supposing him to have been gifted by nature with an independent spirit, between which and his ambition there was a continual struggle. The former, however, ultimately gained the ascendancy; and (to use the expressions of Mr. Hallam) "he became, not without some honourable inconsistency of doctrine as well as practice, the strenuous assertor of liberty, on the principles of those ancient laws which no one was admitted to know so well as himself; redeeming in an intrepid and patriotic old age, the faults which we cannot avoid perceiving in his earlier life."

It has been elsewhere observed of Coke: "His advancement he lost in the same way he got it—by his tongue: so difficult is it for a man very eloquent not to be over-loquent. Long lived he in that retirement to which court indignation had remitted him, yet was not his recess inglorious; for at improving a disgrace to the best advantage he was so excellent, as King James said of him, *he was like a cat, throw her*

which way you will she will light upon her feet. And finding a cloud at the court he made sure of his fair weather in the country, applying himself so devoutly to popular interest, that in succeeding parliaments the prerogative felt him as her ablest, so her most active opponent."

The patriotism and independence of Sir Edward Coke must ever be considered as the brightest feature in his character. It is as a patriot alone that he stands superior to his great contemporary Bacon, with whom throughout the greater part of his professional career he was placed in constant competition. Both had embraced the same profession, both prosecuted it with ardour and success; one attaining the highest, the other the second dignity it can confer; and both lived to experience the instability of the preferment they had struggled so hard to acquire. But the causes which produced the downfall of these illustrious persons were widely different; and he whose integrity was unimpeached rose highest in public estimation after his disgrace at court; while all the brilliant qualities of his rival, when sullied by corruption, failed to procure him the consideration and esteem that to a generous mind form the most gratifying reward of every exertion. As an author, however, Bacon need fear no comparison with Coke. No one can peruse a production, however slight, of each, without being struck by the wide disparity of their intellects. Bacon was in every respect superior to his age; Coke was merely on a level with it: the former was a philosopher, a statesman, and a lawyer; the latter was a lawyer, and little or nothing more. An absurd opinion is sometimes maintained, that those who devote themselves to the study of the legal profession must sedulously refrain from intercourse with every other department of literature and science. Perhaps no more striking refutation of such a doctrine can be named, than the great superiority of Bacon's legal writings over those of his contemporary. As a practical lawyer, Coke was undoubtedly without an equal. All the abstruse learning of the common law, the subtle niceties of pleading, and the voluminous enactments of the statute-book, were treasured in his memory; and from this copious repertory he could always draw wherewithal to supply the emergencies

of a particular case. But he wanted the lamp of philosophy to enlighten the confusion of so many jarring elements. It would have produced such an effect as the first beaming of day is said to have done on chaos; for though in a confined circle he could move with safety, if not with freedom, he was bewildered and lost when he ventured beyond it. His mind resembled a spacious but ill constructed dwelling-house, stored with furniture in abundance and of costly workmanship, which, however, for want of order and arrangement, is deprived of much of its utility, and is often found to be more cumbersome than convenient. The difference we cannot fail to perceive between these distinguished individuals was owing as much to the original dissimilarity of their genius, as to their education and acquired habits of thinking: Coke had not been nurtured in the school of philosophy; and having once fallen into the beaten track of the law, he seems never to have felt a wish to diverge from it: although endowed with a shrewd and penetrating mind, he loved rather to involve himself in the perplexities of detail, and to treasure up a vast number of unconnected facts, than by arranging and combining these, the elements of knowledge, to discover new and hidden truths. He possessed a memory at once powerful and capacious; industry, which no labour could fatigue, and that sobriety and dispassionate temper of mind which no intricacies could disgust, but he was lacking in the higher and more noble faculty of reason, which is the true and only source of all philosophy. In this his great rival, the father of philosophy, eminently excelled; and while Bacon was gaining by a broader and easier ascent, the vantage ground of his profession, he found leisure to indulge the natural versatility of his tastes, and to make those excursions into the fields of literature and of science, by which his fame has become the property of the world. In none of Coke's writings do we find a single attempt to generalize, to discover those great principles of jurisprudence from which most of the principal enactments of positive law have been deduced, or to lay down rules for the guidance of future legislators. He is content to know that certain regulations have been made, and that certain consequences must follow; but he goes no further, or if

he attempts to do so, he wanders without a compass. No one, who has perused even the speech of Lord Bacon, on his taking his seat in the Court of Chancery, will require to be told that his manner of treating legal subjects is very different.

It is true that the voluminous writings of Coke have always been classed among the most important that we possess on the laws of this country. "His learned and laborious works on the laws," says Fuller, "will be admired by judicious posterity, while fame has a trumpet left her, and any breath to blow therein." But this eulogium must not be understood to imply that they are worthy to be looked up to as models for imitation, either in point of style or method. Their chief merit consists in the extensive learning and sound legal information which they contain; but this is imparted in such a negligent and slovenly manner, as greatly detracts from their value. They resemble a garden filled with the choicest flowers, which, however, are frequently disfigured or concealed by the neighbourhood of weeds and rubbish. That want of order and arrangement, which is their principal fault, seems to have arisen not so much from mere carelessness and inadvertence in the disposition of the subjects to be discussed, as from the peculiar habit of Coke's mind, which made him ever more anxious to exhibit his powers of subtlety and copious illustration in reasoning, than to produce only such arguments as might be apposite and well timed. Hence his digressions are not only frequent but almost interminable; and his arguments are often heaped together till they become tiresome and even puerile. It appears that he was reproached with committing exactly the same faults in extemporaneous speaking. Lord Bacon expresses himself thus on the subject: "In discourse you delight to speak too much, not to hear other men. This, some say, becomes a pleader, not a judge; for by this sometimes your affections are entangled with a love of your own arguments, though they be the weaker, and rejecting of those which, when your affections were settled, your own judgment would allow for strongest. Thus, while you speak in your own element, the law, no man ordinarily equals you; but when you wander, as you often delight to do, you wander indeed, and give never such satisfaction

as the curious time requires. This is not caused by any natural defect, but first for want of election; when you, having a large and fruitful mind, should not so much labour what to speak, as to find what to leave unspoken: rich soils are often to be weeded. You cloy your auditory when you would be observed; speech must be either sweet or short."

A few examples shall be given of these defects in the works of Sir Edward Coke. The first that occurs will sufficiently illustrate his manner of digressing, his mania for assigning a reason to every thing, and also the particular tone of quaint pedantry which was in some degree the characteristic of his age. It is taken from his *Commentary on Littleton*. The author having enumerated the different kinds of tenures and services in the following order: viz. homage fealty, escuage, knight's-service, frankalmoigne, homage auncestrell, grand serjeanty, petit serjeanty, tenure in burgage, in villanage, and rents, Coke cannot but find something peculiarly appropriate in the arrangement of these heads. After commenting on the four first, he goes on: "Fifthly, *soccage*, the service of the plough, aptly placed next knight's-service, for that the ploughman maketh the best souldier, as shall appear in his proper place. Sixthly, *frankalmoigne*, service due to Almighty God, placed towards the middest for two causes; first, for that the middest is the most worthy and most honourable place; and, secondly, because the first five preceeding tenures and services, and the other six subsequent must all become prosperous and usefull, by reason of God's true religion and service; for *Nunquam prospere succedunt res humanæ, ubi negliguntur divinæ*. Wherein I would have our student follow the advice given in these ancient verses for the good spending of the day:

"Sex horas somno totidem des legibus æquis,
Quatuor orabis, des epulisque duas;
Quod superest ultra sacris largire camœnis."

Co. Litt. 238. a.

Notwithstanding his undisguised contempt for "rhyming poets," this is not the only occasion on which he has thought proper to introduce scraps of Latin verse, and even doggerel, into his legal discussions. Thus, in the following passage: "If the wife elope from her husband, that is, if the wife leaves her husband and tarrieth with her adulterer, she shall lose her dower until her husband willingly, without coercion

ecclesiastical, be reconciled to her, and permit her to cohabit with him; all which is comprehended shortly in two hexameters:

"Sponte virum mulier fugiens, et adultera facta,
Dote sua careat, nisi sponsi sponte retracta."

Co. Litt. 32. a. 32. b.

Of his very clumsy and inappropriate mode of introducing quotations in his legal writings, it would be difficult to find a more ludicrous example than the passage which occurs in the beginning of his chapter on the jurisdiction of forest courts. (Inst. iv. chap. 73.) "Seeing we are to treat," he says, "of matters of game and hunting, let us (to the end we may proceed the more cheerfully) recreate ourselves with the excellent description of Didoe's doe of the forest wounded with a deadly arrow stricken in her, and not impertinent to our purpose."

Uritur infelix Dido, totâque vagatur
Urbe furens, qualis conjectâ cerva sagittâ,
Quam procul incautam nemora inter Cressia
fixit

Pastor agens telis, liquitque volatile ferrum
Inscius: illa fugâ sylvas saltusque peragrat
Dictæos, hæret lateri lethalis arundo.*

And in a marginal note he compares this wound of the stricken doe to "an evil conscience in the false and furious officer of the forest, if any such be."

His constant disposition to account for every thing by uncommon and singular reasons, is nowhere better exemplified than in his derivations of words. Thus: *Parliament*, he says, is so called, "because every member of that court should sincerely and discreetly *parler la ment* for the general good of the commonwealth." (Co. Litt. 110. a.) "The word *placitum* is derived à *placendo*, quid bene placitare super omnia placet; and it is not, as some have said, so called per antiphrasin, quid non placet." (Ibid. 17. a. 303. a.) "Towne (ville) *villa*, quasi *vehilla*, quod in eam convehantur fructus." (Ibid. 115. b.) "*Robberie*. *Roboria*, properly is when there is a felonious taking away of a man's goods from his person; and it is called *robberie*, because the goods are taken as it were

de la robe, from the robe, that is, from the person; but sometimes it is taken in a larger sense." (288. a.) A hundred other such instances might be quoted.

Perhaps there is no quality more conspicuous throughout the writings of Coke than a constant parade of scholastic pedantry. He seldom discusses a subject, however unimportant, without dividing it according to rule under several distinct heads; and it by no means unfrequently occurs that his awkward attempts to establish complete perspicuity create confusion and perplexity where none existed before. It is evident that he was unconscious of this failing.

In his preface to the seventh report he says: "In these and the rest of my reports I have (as much as I could) avoided obscurity, ambiguity, jeopardy, novelty, and prolixity. 1. Obscurity; for that it is like unto darkness, wherein a man for want of light can hardly with all his industry discern any way. 2.

Ambiguity; where there is light enough, but there be so many winding and intricate ways, as a man for want of direction shall be much perplexed and entangled to find out the right way. 3. Jeopardy; either in publishing of any thing that might rather stir up suits and controversies in this troublesome world than establish quietness and repose between man and man; (for a commentary should not be like unto the winterly sun, that raiseth up greater and thicker mists and fogs than it is able to disperse;) or in bringing the reader by any means into the least question of peril or danger at all. 4. Novelty; for I have ever holden all new or private interpretations or opinions, which have no ground or warrant out of the reason or rule of our books or former precedents, to be dangerous and not worthy of any observation, for *periculosum existime quod bonorum virorum non comprobatur exemplo*. 5. Prolixity; for a report ought to be no longer than the matter requireth; and as *languor prolixus gravat medicum, ita relatiq prolixa gravat lectorem*."

The scholastic method of argument is often clumsily, and sometimes incorrectly, employed by Coke. He was in the habit of falling into that dangerous error, so common among those who use the mechanism of reasoning somewhat carelessly, of being misled by mere verbal subtleties; and in consequence of this failing his style of arguing is not only often loose and perplexed, but

* These lines are thus translated by Dryden.
(Æneis, book iv.)

Sick with desire, and seeking him she loves,
From street to street the raving Dido roves,
So when the watchful shepherd, from the blind,
Wounds with a random shaft the careless hind,
Distracted with her pain, she flies the woods,
Bounds o'er the lawn, and seeks the silent floods
With fruitless care; for still the fatal dart
Sticks in her side, and rankles in her heart.

occasionally vicious. Instances of this sort may be found in his report of Calvin's case, which also contains examples of the defect before mentioned. The principal question of law brought under the consideration of the court in that celebrated cause was: whether the plaintiff, who had been born in Scotland, after the crown of England had descended to James I., was an alien born, and consequently disabled from bringing any action real or personal for lands within the realm of England. It was observed that there were four nouns, which might be called *nomina operativa*, in the plea, viz.: *ligeantia*, (allegiance,) *regnum*, (kingdom,) *leges*, (laws,) and *alienigena* (alien.) Each of these subjects underwent a separate discussion. On coming to the last, the reporter observes: "Now we are in order come to the fourth noun (which is the fourth general part) *alienigena*: wherein six things did fall into consideration. 1. Who was *alienigena*, an alien born by the laws of England? 2. How many kinds of aliens born there were? 3. What incidents belonged to an alien born? 4. The reason why an alien is not capable of inheritance or freehold within England? 5. Examples, resolutions, and judgments reported in our books in all successions of ages, proving the plaintiff to be no alien. 6. Demonstrative conclusions upon the premises, approving the same." After examining the first five points at some length, he comes to the last head, which, he says, comprises "six demonstrative illations or conclusions, drawn plainly and expressly from the premises." Among these six arguments, it does not require much penetration to discover the unsoundness of the following.

"Every stranger must at his birth be *amicus* or *inimicus*; but Calvin at his either birth could neither be *amicus* nor *inimicus*: *Ergo*, he is no stranger born. *Inimicus* he cannot be, because he is *subditus*; for that cause also he cannot be *amicus*: neither now can Scotia be said to be *solum amici*, as hath been said.

"Whatsoever is due by the law or constitution of man may be altered: but natural liegeance or obedience to the sovereign cannot be altered: *Ergo*, natural liegeance or obedience to the sovereign is not due by the law or constitution of man. Again, whatsoever is due by the law of nature cannot be altered; but liegeance and obedience

from the subject to the sovereign is due by the law of nature: *Ergo*, it cannot be altered."

The false positions contained in these arguments are not the less glaring for being delivered under the form of syllogisms. It will be remarked that in each of them the *minor* is open to exception. The whole of Calvin's case is an excellent specimen of the pedantry with which not only Coke himself, but by far the greater portion of his legal brethren were infected; and if any one would form an opinion of the cumbrous and unprofitable learning with which lawyers in those days were wont to load their discourses, he can do no better than read it in Coke's report. It was an occasion of very great display, as appears by his account of the vast interest excited, and the elaborate discussion it underwent. All the fourteen judges, (there being then five in both the King's Bench and Common Pleas,) with the Lord Chancellor Ellesmere, argued it, apparently at much length, for only two were heard in each of the eight days during two successive Terms that the debate lasted. Every judge took his own course, as Lord Coke informs us; and yet he confesses there was not much difficulty in the case, but that its importance only made the judges of the King's Bench carry it into the Exchequer chamber, where thirteen of the fourteen were, with the chancellor, clear one way. It was evidently made the occasion of an exhibition, a grand legal exercitation, much to the taste of those times. Now, not only is the discussion filled with the most useless and inapplicable learning, but there is really very little that can be called argument in it. Farfetched analogies, quaint allusions, quibbles upon words, quotations from the scripture and from profane authors, both classical and legal, abound in it; but there is a total want of close reasoning upon principle where principles are introduced. Its only value now lies in the remarks made incidentally upon other points of law foreign to the case at bar.

It is impossible to mention this celebrated case without noting the great interest which the argument upon it, especially from the bench, appears to have excited in Westminster Hall, and the enthusiasm with which Lord Coke regards it in his report. He seems quite elevated with conscious satisfaction and professional pride when he

considers how eminently the judges had distinguished themselves; and speaks as one, not merely relating a very important decision in the law, but as one recording a great triumph of the science and its professors. "It was observed," he says, "that there was not in any remembrance so honourable, great, and intelligent an auditory at the hearing of the arguments of any Exchequer chamber case, as was at this case now adjudged. It appeareth that *juris prudentia legis communis Angliæ est scientia socialis et copiosa*; sociable, in that it agreeth with the principles and rules of other excellent sciences, divine and humane; copious, for that *quamvis ad ea quæ frequentius accidunt jura adaptantur*; yet in a case so rare, and of such a quality, that loss is the assured end and practice of it, (for no alien can purchase lands but he loseth them, and *ipso facto* the king is entitled thereunto, in respect whereof a man would think few men would attempt it,) there should be such a multitude and farrago of authorities in all successions of ages, in our books and book-cases, for the deciding of a point of so rare an accident." This may serve as a specimen of the manner in which Coke's enthusiasm for the law is wont incidentally to display itself in his writings.

Although Lord Coke doubtless reckoned the account of Calvin's case his masterpiece as a reporter, deeming the argument itself the first sample of juridical learning and ingenuity, there are many of his cases in every respect far more worthy of commendation. If one were to be selected for the subtlety of the argument, and indeed the importance of the principles to the law, it perhaps would be that of Shelly; nevertheless, this too is disfigured by very puerile matter. For instance, when to prove that the date of the use must be referred to the recovery suffered, and not to the execution of the use, reference is made to the case of a man while insane giving himself a deadly wound, and afterwards dying while in his senses, which is by many authorities shown not to make him *felo de se*; a thing so self-evident that we are left in doubt, whether most to admire the serious foolery of those who could gravely discuss and decide it, or of those who could cite it for a purpose so foreign. Perhaps, however, upon the whole, Chudleigh's case may

be taken as the best example of legal acuteness in those who argued it. Although not above twenty years before the case of the *Postnati*, it should seem that the taste of the bar had been much infected with the growing pedantry of the times during that interval.

If, indeed, we merely look to the merits of the *Reports*, it is not to any of the great cases, the renowned names, that we should resort. Beside those which have been cited, Corbet's and Mildmay's, Taltarum's, Mary Portington's, Clue's, Albany's, are all more or less open to the charge of prolixity, though very much less liable to it than the more celebrated ones of Shelly and Calvin. But the less pretending ones, which shortly give the resolutions of the court upon certain questions, and with little or no argument beyond what is necessary to explain the decision and its grounds, afford by far the best specimen of the learned reporter's talents for abstracting and recording. Indeed, the vast number of points resolved in these cases, and the generality with which they declare the law independent of peculiar facts, and unincumbered of those circumstances denominated by Lord Eldon *specialties*, after the language of the Scottish bar, present a most remarkable contrast to the decisions of modern times, wherein it is oftentimes hardly possible to arrive at a rule through the maze of details and qualifications that beset the course of the judgment.

It must not, however, be supposed that every short notice of a case in the *Reports* is free from learned lumber and extravagance. The case of Swans is little enough in bulk, and trifling enough in import, yet is it sufficiently chequered with nonsense, hardly exceeded by the case of *Mares* in Scriblerus's *Reports*. "The truth of the matter was that the Lord Strye had certain swans which were cocks, and Sir J. Charlton certain swans which were hens, and they had cignets between them; and for these cignets the owners did join in one action; for by the law the cignets do belong to both owners in common equally, *sc.* to the owner of the cock and the owner of the hen, and the cignets shall be divided betwixt them. And the law thereof is formed on a reason in nature, for the cock swan is an emblem or representative of an affectionate and true husband to his wife above all other fowls; for the cock

swan holdeth himself to one female only, and for this cause nature hath conferred on him a gift beyond all others; that is to die so joyfully, that he sings sweetly when he dies; upon which the Poet saith

Dulcia defecta, &c. &c.

And therefore this case of the swan doth differ from the case of kine and other brute beasts."—*Vide 7 Hen. 4. 9.*

But though all Lord Coke's writings are more or less disfigured by such far-fetched and inappropriate arguments as these, it is not to be supposed that he was altogether incapable of reasoning philosophically. It certainly must be allowed that it is not often instances occur in his works of enlarged and comprehensive views, such as the great mind of Bacon delighted to indulge in; but they are sometimes to be met with. His sound and humane remarks on capital punishment, at the close of his third Institute, merit attention: whether we regard the man or the age. "Wofull experience," he says, "has shown the inefficacy of frequent and often punishment to prevent offences. It is a certain rule that those offences are often committed that are often punished; for the frequency of the punishment makes it so familiar as it is not feared." In the margin we then have "*Sta, perlege, plora,*" and in the text he continues thus: "What a lamentable case it is to see so many Christian men and women strangled on that cursed tree of the gallows; inso-much as if in a large field a man might see together all the Christians, that but in one year throughout England come to that untimely and ignominious death, if there were any spark of grace or charity in him, it would make his heart to bleed for pity and compassion." He then lays down the rules of "preventing justice," and at the head of these he places "*the good education of youth.*" Another is the granting pardons very rarely; and the third, the execution of good laws, though this he deems inferior to education.

Having now adverted to the most conspicuous faults and peculiarities which equally pervade all Coke's writings, it will be proper to give some account of his different works. The first in the order of time was the first part of his Reports, which was published in 1600, while he was attorney-general to Elizabeth. It is entitled "Reports

of Sir Edward Coke, Knight, her majesty's attorney-general,* of divers resolutions and judgments given with great deliberation by the reverend judges and sages of the law, of cases and matters in law which were never resolved or adjudged before: and the reasons and causes of the said resolutions and judgments, during the most happy reign of the most illustrious and renowned queen Elizabeth, the fountaine of all justice, and the life of the law." To this report, ten more parts were added during his lifetime, the last in 1615, while he was chief justice of the King's Bench under James I; and after his death two supplementary books of them were published. These, however, not having been revised by the author himself, are not held in such high estimation as those which made their appearance during his lifetime. It has been already stated that on the disgrace of Sir Edward Coke, he was enjoined by the king to pass the summer vacation in correcting his Reports; "wherein," as James affirmed, "there were many dangerous conceits of his own uttered for law, to the prejudice of his majesty's crown, parliament, and subjects." After three months' deliberation, Coke gave in a list of such errors as he had detected; but as they were for the most part merely verbal inaccuracies, such as could in nowise support the charge intended to be brought against him, five special cases were selected by the king's order for that purpose. Sir Edward, however, answered all the objections that could be made against them in such a manner, as to satisfy all who understood the points in dispute; and, indeed, it appears that his legal adversaries, whatever might be their personal enmity towards him, or their deference to the commands of the king, were ashamed of the task imposed on them. Lord Chancellor Ellesmere, in particular, whose temperate conduct throughout the whole of the proceeding was highly creditable to him, was exceedingly anxious to be excused from it. "All that I have done in this," he wrote, "hath been by your majesty's commandment and direction, in presence of all your learned council, and by the special assistance and advice of your attorney and solicitor. I

* This, it will be remarked, is not quite a correct designation, since he was not knighted till after the accession of James I.

know obedience is better than sacrifice; for otherwise I would have been an humble suitor to your majesty to have been spared in all service concerning the lord chief justice." Nevertheless, though the charge was dropped for the time, it was renewed after Coke's alliance with Buckingham, while Bacon was lord keeper. But as Sir Edward openly demanded that the matter might be investigated by the twelve judges, and that they might certify at the same time what cases he had published "for the maintenance of the royal prerogative and benefit, for the safety and increase of the revenues of the church, and for the quieting of men's inheritances, and the general good of the commonwealth," his enemies thought it most prudent to avoid the inquiry altogether.

Bacon himself has said: "Had it not been for Sir Edward Coke's Reports, (which, though they may have errors, and some peremptory and extrajudicial decisions more than are warranted, yet they contain infinite good decisions and rulings of cases,) the law by this time has been almost like a ship without ballast; for that the cases of modern experience are fled from those that are adjudged and ruled in former time."

In 1614, Sir Edward Coke published his "Booke of Entries," and his first Institute, or Commentary on Littleton appeared in 1628. His other works were not published till after his death. They consist of his "Treatise of Bail and Mainprise," (1637;) his "Complete Copyholder," (1640;) the second, third, and fourth parts of his Institutes, (1642, 1644;) and his "Reading on the Statute of Fines, 27th Ed. I." (1662.)

The first Institute of Sir Edward Coke is a running commentary on a short treatise of tenures written by Littleton, who was a judge of the Common Pleas in the reign of Edward IV. The merit of the original work has ever been warmly acknowledged by English lawyers. Lord Guildford made it a point never to let a year pass without reading it through. Coke himself calls it "the ornament of the common law, the most perfect and absolute work that ever was written in any human science;" and if his testimony be rejected as partial or exaggerated, no one will refuse to acknowledge that Sir William Jones has not gone too far in attributing to Littleton, whom he styles the English lawyer's great master, "lumi-

nous method, apposite examples, and a clear, manly style, in which nothing is redundant, nothing deficient." The commentary cannot boast of the same qualities. Strictness of method was not indeed very compatible with the nature of such a work; but the constant digressions of the annotator, of which some few examples have already been given, are multiplied to an extent that must deprive the commentary of all claim to that systematic arrangement, and severe concision, which ought to be considered indispensable in every elementary treatise. The fact is, as Blackstone has well observed, that Coke's Institutes have very little of the institutional method to warrant such a title, and that this commentary, though a rich mine of valuable common law learning, is particularly remarkable for its deficiency in method. Coke himself says, "I have termed them Institutes, because my desire is they should institute and instruct the studious, and guide him in a ready way to the knowledge of the national laws of England. This work (speaking of the Commentary on Littleton) we have called the first part of the Institute, for two causes: first, for that our author is the first book that our student taketh in hand: secondly, for that there are some other parts of Institutes not yet published, *viz.* the second part, being a commentary upon the statute of *Magna Charta*, Westminster I., and other old statutes. The third part treateth of criminal causes and pleas of the crown: which three parts we have, by the goodness of Almighty God, already finished. The fourth part we have purposed to be of the jurisdiction of courts: but hereof we have only collected some materials towards the raising of so great and honourable a building. We have, by the goodness and assistance of Almighty God, brought this twelfth work to an end: in the eleven books of our Reports, we have related the opinions and judgments of others; but herein we have set down our own." This description of the four Institutes may suffice. It has already been said, that the three last are held in less estimation than the Commentary on Littleton, which is partly on account of their being posthumous works, and partly because the subjects of which they treat are generally speaking more obsolete. The law of real property, which forms the subject

of the first Institute, though it has undergone some considerable changes since the abolition of the feudal tenures in the reign of Charles II, still remains in many respects the same as it stood in the time of Coke; and his commentary is even now looked upon as one of the most copious and authentic sources of information on the subject. The eighteenth edition of this work was published in 1823, being the sixth which has appeared within the period of thirty years; a convincing proof of the value attached to it by modern lawyers. It may also be considered a testimony of the respect which is borne for Sir Edward Coke and his works, that his Reports, instead of being distinguished from other works of the same nature by the addition of the author's name, are invariably styled *The Reports*. Indeed, the astonishing acuteness of his mind, his immense stores of legal learning, and his unwearied industry, peculiarly qualified him to go through the arduous task he imposed on himself, in undertaking the various works which have given him a lasting reputation. Had he lived a century later, it is more than probable that the faults with which his writings are disfigured would have been corrected by the style and the spirit of a more polished age; but even with all his imperfections, he can never cease to be regarded, in every point of view, as one of the most illustrious of the numerous celebrated characters that figure in the annals of the English jurisprudence.

The Manuscripts of Lord Coke are in the possession of his descendant, Mr. Coke, of Norfolk, whom we have already mentioned as his representative through the female issue of Lord Leicester, the male heir of the chief justice.

At this gentleman's princely mansion of Holkham, is one of the finest collections, or, indeed, libraries of manuscripts anywhere preserved; certainly the finest in any private individual's possession. It partly consists of the chief justice's papers; the rest, and the bulk of it, was collected by that accomplished nobleman who built the mansion, the last male heir of the great lawyer. He had spent many years abroad, where his taste was improved and his general education perfected. He collected a vast number of the most valuable manuscripts. Of these the exquisitely illuminated missals, and other writings of

a similar description, which would from their perfect beauty and great rarity bear the highest price in the market, are certainly by far the least precious in the eyes of literary men. Many of the finest *codices* of the Greek, Latin, and old Italian classics are to be found in this superb collection. Among others are no less than thirteen of Livy, a favourite author of Lord Leicester, whom he had made some progress in editing, when he learnt that Drakenborchius, the well known German critic, had proceeded further in the same task, and generously handed over to him the treasures of his library. The excellent edition of that commentator makes constant reference to the Holkham manuscripts, under the name of *MSS. Lovelliana*, from the title of Lovell; Lord Leicester not having then been promoted to the earldom. Mr. Coke, with a becoming respect for the valuable collection of his ancestors, was desirous to have the manuscripts unfolded, bound, and arranged, both with a view to their preservation and to the facility of consulting them. They had lain for half a century neglected, and in part verging towards decay, when he engaged his valued friend, William Roscoe, to undertake the labour so congenial to his taste and habits, of securing these treasures from the ravages of time. From the great number of the manuscripts, the state in which many of them were, and the distance of Mr. Roscoe's residence, this was necessarily a work of time. After above ten years employed on it, the task is now finished. Each work is beautifully and classically bound; and to each Mr. Roscoe has prefixed, in his own fair handwriting, a short account of the particular manuscript, with the bibliographical learning appertaining to it.

But our present purpose is with the small portion of this collection which descended from Lord Coke. A great part of it is in his own handwriting. There are, among others, the original manuscript of the Book of Entries, and of the Reports, in law French. The student may here enjoy the gratification of reading Shelly's case and Calvin's case in the reporter's own hand. But there are also unpublished works of the same illustrious lawyer and patriot. Among these a curious Statistical Account of England has long been known to antiquaries. — Another work, much more valuable, if not written by Lord Coke

himself, a supposition which appears to be negatived by internal evidence, especially by the manner of citing the Reports, yet seems to have been well esteemed by him, possibly composed under his direction. Having been favoured with a particular account of its contents, we may render an acceptable service to lawyers by describing them somewhat in detail.

It is a folio MS. of 225 pages, in English, entitled, "*A Treatise concerning the Nobility of England according to the Law of England.*" The following is the opening of the work, written pretty much in the style of the chief justice.

"As in man's body for the conservation of the whole, divers functions and offices of members are required, even soe in all well gouerned common-wealthes, a distinction of persons is necessary. *Nobilitas* generally signifieth, and is derived of the word *nosse*, to knowe, signifying in common phrase of speech both with the Lattines and also with us Englishmen, a generositie of blood; and therefore one said, '*Vir nobilis idem est quod notus et per omnia ora vulgatus.*' A nobleman is hee whose is knowne and through all the tenor of his life is talked of by many men's mouthes. But especially applyed and used to express the reward of vertue in honourable measure, '*et generis claritatem.*' But my purpose at this tyme is onelie to speake of the nobilitye, and especiall ye soe much of them as I find written in the bookes of the common lawes and statutes of the realme."

After some further preliminary matter, he goes through the different titles of honour severally, beginning with that of *prince*, and then passing to *duke*. Under these heads there is much learning upon the dutchies of Cornwall and Lancaster, and the earldom of Chester. Under the head of *earl*, and between that and *viscount*, he enters largely into the law regarding nobles, and specially the subject of *scandalum magnatum*. In the course of this discussion he breaks forth into a vehement invective against libels.

"There is another foule puddle that arriseth from the same corrupt quagmire, and distilleth out of a beastliness infected with malice and envie, but is devised and practised by another means than the former, which is by libelling, general slandering, and defaming of another; for this backbiter doeth not by wordes harme his adver-

sary in so manifest and turbulent manner; as the hellewick monster in his fury doth, but seeming to sitt quietly in his studdy doth more deepe lie punish him, and infixeth a more deadlie and incurable wound into his fame and credit than the other boysterous fellow doeth in his body, whose in a moment threateneth to doe more than peradventure he is willing to perform, or dareth to perform in an age."

Under this head we meet with a curious note, as follows:—

"Note—that if a man doth write unto another scandalous words and reports touching a noble-man, and this letter be sealed with his seale and subscribed with his name, yet upon this letter, shewed in evidence, this noble man may recover damages in an action *de scan. mag.* whereof you may see presidents in Crompton; but if a man doe write any matter in defamation to the party himselfe that is thereby traduced, and subscribe and seale the same without other publication done by himselfe—quære."

Certainly there could now be no question in this matter; there being clearly no act of publication to the damage of the party slandered; whereas in the case first put there is plainly a complete publication against the nobleman to a third person, and consequently a manifest damage done. In discussing the application of the maxim, *Possessio fratris facit sororem esse heredem*, to titles of honour, and showing that it extends not to them, he argues etymologically on the meaning of *possessio*; "which," says he, "is no other than *pedis positio*, and can only be of things whereof there is entry." How plainly we perceive, in this as in a thousand instances of Lord Coke's undisputed writings, the tendency of the learned of those days to pass over the obvious and the true derivation, in order to get at some etymon of a fanciful and far-fetched kind, which may serve the purpose of his argument! Can any one doubt that *possedere* comes from *posse sedere*?

He next discusses the "Privileges incident to the Nobility, according to the Laws of England." Of these, trial by peers is the first; and under this head he lays it down that bishops have not this privilege, "because they cannot try, and trial is mutual;" a dictum long since overruled.

Exemption from attendance upon

the leet and tourn is the next privilege handled by him; and then the right of having chaplains. Then follows the privilege they have in equity suits, happily abridged by one of Sir Samuel Romilly's acts. This subject is closed with a discussion of the case—"wherein a lord of parliament hath noe privilege."

The title of *Baron* is an important and an ample one.—The author treats it under three heads, Barony by Tenure, Barony by Writ, and Barony by Patent. Of these the first is the most curious, and being upon a chapter of the law now become nearly obsolete, it possesses peculiar interest, as containing the doctrine in acception among lawyers, in the time when that subject was more familiarly known. The author gives a great number of instances of Baronies by Tenure; tracing the descent or transmission of each in such a line as showed the peculiarity of the territorial holding, and giving tabular schemes of the persons taking a passed one. He then lays down certain canons respecting such honours, restricting exceedingly the powers of the owners of the territory and castle, once the descent of the barony.

Under the head of Baron by Patent, he discusses a subtle question: "If a nobleman and his heirs have for a long time been called to parliament, and be barons by tenure or by writ, and have had in regard thereof a place certain in parliament; if afterwards the same be created a baron of *that* barony, and by the same name, by letters patent; whether shall he and his heirs retain his oulde place in parliament which he had according to the former dignity; or whether should he lose his oulde place, and take a new according to the tyme of his seconde onelie?"

There follows a concluding discussion on "nobilitie or lades in reputation onelie." "Under this head we have treated, the subject of courtesy and forein ladies—noble women—the post-nati of Scotland—and ladies in reputation."

It is certain that this manuscript is well worthy of the attention of the learned; and we venture to hope that Mr. Coke will permit it to be published.

Further information concerning the life of Sir Edward Coke, and the times during which he flourished, may be gathered from the following works:—

Biographia Britannica, art. *Coke*; whence a considerable part of the foregoing narrative has been extracted.

Bacon's Works; particularly vol. vii. of Mr. Basil Montagu's edition, which contains most of the letters quoted above.

State-Trials; particularly the trials of Essex and Raleigh, the proceedings connected with the powder-plot, and the murder of Sir Thomas Overbury. See also the first volume of Mr. Phillips's excellent "Collection of the most remarkable State Trials."

Fuller's Worthies.

Lloyd's State Worthies.

Roger Coke's Detection of the Court and State of England.

Memorials of Affairs of State, in the Reigns of Queen Elizabeth and King James I., collected (chiefly) from the original papers of the Right Honourable Sir Ralph Winwood, Knt., sometime one of the principal Secretaries of State. (3 vols. folio, 1725.)

CABALA, sive scrinia sacra: mysteries of state and government in letters of illustrious persons and great ministers of state, as well foreign as domestic, in the reigns of King Henry VIII., Queen Elizabeth, King James, and King Charles. Wherein such secrets of empire, and public affairs, as were then in agitation, are clearly represented, and many remarkable passages faithfully collected. (folio.)

The Annals of King James and King Charles I., both of happy memory, containing a faithful history and impartial account of the great affairs of state, and transactions of parliaments in England, from the tenth of King James, 1612, to the eighteenth of King Charles, 1642. (folio, 1631.)

Rushworth's Historical Collections of private passages of state, weighty matters of law, remarkable proceedings in five parliaments. Beginning the sixteenth year of King James, anno 1618, and ending the fifth year of King Charles, anno 1629. (7 vols. folio, 1659.)

"Among modern works, "The Life of Sir Edward Coke," by Mr. Woolrych, of Lincoln's Inn, contains many minute and curious details, drawn from the most authentic sources.

"The Histories of Hume and Lingard, the Parliamentary History, and the Journals of the House of Commons may be consulted with advantage, so far as they relate to the proceedings mentioned in the text; and the first volume of Mr. Hallam's Constitutional History of England will also be found to contain much valuable information connected with the subject.

Miss Aikin's "Memoirs of the Court of King James the First," furnish a general account of most of the events that have been touched upon above.

Some curious particulars relative to the marriage of Coke's daughter are given in the first volume of the second series of Mr. D'Israeli's "Curiosities of Literature."

LIFE OF CARSTEN NIEBUHR.

Introduction.

THE memoir which we are about to lay before our readers is the life of a man sprung from the ranks of the people, and retaining through life his sympathies with them. At the highest point of elevation to which he attained, favoured by his prince, respected and admired by the learned and eminent of all countries, it was his pride that he was born a peasant of Free Friesland. His manners never lost the simplicity, nor his morals the purity of that singular and estimable class of men. If ever there lived a man who might safely and reasonably be held up to the people as an object of imitation, it was Carsten Niebuhr.—Not only was he a poor man,—an orphan,—born in a remote part of a remote province, far from all those facilities for acquiring knowledge, which in this age and country are poured out before the feet of the people;—he was not even gifted in any extraordinary way by nature. He was in no sense of the word a *genius*. He had, as his eminent biographer remarks, no imagination;—his power of acquiring does not seem to have been extraordinarily rapid, nor his memory singularly retentive. In all cases, where the force of that will, at once steady and ardent, which enabled him to master his favourite studies, was not brought to bear, his progress was slow and inconsiderable. It is not, therefore, in any supposed intellectual advantages that we must look for the causes of his rise to eminence. They are to be found rather in the moral qualities which distinguished him, qualities attainable in a greater or less degree by men of the humblest rank, of the most homely intellect, the least favoured by situation or connexion. It will well repay us to look a little more nearly into these qualities;—they are the bases of everything which a man of unperverted judgment and taste would respect in others or desire in himself.

He possessed in an eminent degree the distinguishing virtues of his country,—sincerity, unadulterated and faithful love of truth, and honesty. The zeal with which he gave himself to a pursuit which might enable him to be useful to his native district;—the total absence of vanity and of all interested motives which characterized the whole course of his studies and of his journeyings;—the simplicity of his narrative, in which no more of himself and his individual feelings appears than is just necessary to keep up the thread of the story;—the rigorous accuracy and anxiety after truth for which his travels have ever been, and still remain, pre-eminently distinguished among all who preceded, and all who have followed him on the same ground, afford ample evidence of the singleness and the steadiness of the motives which actuated him. The punctilious honour which distinguished his disbursement of the funds entrusted to his care by the Danish government;—the exactness with which he abstained from applying a farthing of this money to any object which could be considered by others, or which his own more fastidious delicacy could regard, as a personal gratification, (though connected as all his pleasures were with the interests of science and the scope of his mission, prove that honour is confined to no class, but that its highest refinements are within the reach of the humblest.

His self-command was perfect. He could abstain from what was agreeable, and do what was disagreeable to him. He was, of course, sober, temperate even to abstemiousness, laborious and persevering; neither discouraged nor elated by the incidents which he must have known were inseparable from the career he had chosen.

The more tranquil and uniform course of life which he led from the time of his marriage till his death,—his conduct as a father of a family and a citizen, are marked by the same integrity, active usefulness, and simplicity. It was not one of the smallest benefits he conferred

upon his country and society that he imbued his illustrious son with the same fervent and steady zeal for truth and freedom, the same devotion to science, the same respect for all that is beneficent and honourable, which animated his own blameless and useful life. Happy the country which can draw such men as Niebuhr from the ranks of her peasantry to the highest walks of science, and the most important posts in her service!

LIFE OF NIEBUHR.

HADELN, as we are informed by the historical notice at the end of the ancient Frisian laws, printed at Wittewierum, was a province of Friesland, and formerly, under the name of Hadelre, belonged to the seventh *Seeland**, or maritime district. At the dissolution of the great Frisian federation, it lost its republican freedom, and, after experiencing various fortunes, fell into the hands of the Dukes of Saxelauenburg, and, together with that duchy, devolved to Hanover.

The country consists of marsh, with the exception of three parishes of moorland: the peasantry are, as usual in Friesland, universally free proprietors, every one of whom possesses, inhabits, and cultivates his farm, with the fullest and most perfect enjoyment of the rights of property. Down to the time of the French conquest the local administration was free, in the hands of magistrates chosen by the peasantry;—the taxes were extremely light, and the prosperity and comfort of the peasantry very great†.

* Friesland, divided into seven Seelanden, or provinces, was exposed to frequent landings of the Nor-men on their coasts, and on the landside to attacks from the neighbouring Bishops and Counts. To secure themselves from external assault and from internal disquiet, the seven Seelanden formed themselves into a closely united body. This union was ratified at Upstalsboom in the middle of the 11th century, at a general assembly of the people.—WIARDA.

† The peasantry of Friesland enjoy many remarkable rights and liberties rarely to be found in other countries. At one time the *Landstandschafft*, or right and dignity of legislative landed proprietors, was claimed by the freeholders or hereditary owners of small portions of land. These freeholders are chiefly to be found in the marshes, and the marshmen are principally distinguished from the moorlanders from the rareness of allodial tenures among them. The freeholders possess the entire property of their land, and are subject to no one but the government, to which alone they pay taxes and render the service attached to the land. Those freemen who possess not considerable farms, but a few acres, are called *Cotters* (*Köther*) and generally carry on some other accessory or subordinate business.—WIARDA.

In this country,—among these free men,—himself a free peasant, or yeoman,—was Carsten Niebuhr born, on the 17th of March, 1733, in his father's farm-house, in West Lüdingworth. His father and his ancestors, from his great great grandfather downwards, (higher than whom our accounts do not reach) lived as yeomen on their own marsh farm;—in competence, though not in affluence.

It is a remarkable fact that certain epochs produce men distinguished in the same art, or science, or talent, whilst other epochs are utterly barren of them. This was the case, in the north of Germany, with the contemporaries of Carsten Niebuhr. In or about the same year occurred the births of Count Andrew Peter Bernstorff, of Reimarus, Hensler the father, Behrens, and, at remoter distances of time and place, of many other celebrated men. The men of this time were distinguished for a remarkable activity, a singular earnestness and zeal, and a robust health of body and of mind; they have left behind them the most durable monuments in their works and in their actions. They came after Winkelmann, Kant, and Klopstock, by just such an interval as to be rising up to maturity when the latter had reached it.

Carsten Niebuhr lost his mother before he was six weeks old. He grew up under the care of a stepmother in his father's house, where his way of life and his employments, as well as his education, were those common to the peasant boys of his country. It was, probably, owing to his own eager desire for knowledge, that his father was induced, only with a view to his being somewhat better instructed than a common peasant, to send him to the Grammar-school in Otterndorf, whence he afterwards went to that at Altenbruch. But the removal of the schoolmaster of that place and the prejudices of his guardians (for his father had died in the interval) put an end to his school studies, before he had gone far enough even to have them sufficiently impressed on his memory, to be of any service to him, when he afterwards resumed them.

The division of his father's property between the surviving children had left him, instead of the farm which had been so long the hereditary possession of the family, only a very small capital,

quite inadequate to the purchase of any land for himself; and necessity would have led him to acquire knowledge as a means of subsistence, even if he had been of a character to endure to live without education and without employment. He was obliged, however, to content himself with such accomplishments as were attainable without school learning; he, therefore, for a year, pursued music with great zeal, and learned to play on several instruments with a view to earn his living as an organist. As this employment, likewise, did not meet the approbation of his guardians, his maternal uncle took him home to his own house, where he passed about four years, during which his life was once more completely that of a peasant. The older he grew, however, the less could he endure the void and dullness of this way of life, which can only be relieved, either, as in old times, by a share in the general deliberations on the affairs of the community, and by cheerfulness and merriment, or, as is the case with the English farmer, by a participation in the advantages of education, and literary amusement. He felt an irresistible impulse to learn, to employ himself, and to render himself generally useful.

The purely accidental circumstances which determine the course of life of distinguished men deserve to be remembered. In the highest degree accidental was that which gave to Niebuhr the direction which he thenceforward followed, until it led him to become the most eminent traveller of modern times. A lawsuit had arisen concerning the superficial contents of a farm, which could only be decided by measurement; and, as there was no landsurveyor in Hadeln, the parties were obliged to send for one to another place. Niebuhr felt for the honour of his native district with all the warmth of old times, and this occurrence appeared to him disgraceful to it: he could now fulfil a duty towards his country by learning the neglected art, which at the same time furnished him with an occupation and an object such as he desired. He was, in the meantime, come of age, and, as he learnt that instruction in practical geometry was to be had in Bremen, he immediately repaired thither. This plan was frustrated; the teacher upon whom he reckoned was dead; but he did not disdain the instructions of a humble practitioner of the

art. He, however, would have been obliged to lodge and board in his house, and here the bashful, strictly decorous and self-distrusting young peasant, found two town-bred young ladies, sisters of his intended teacher, whose attentions appeared to him so singular that he quickly took his departure. He now turned his eyes toward Hamburg, but there he was destined again to experience disappointment, and to have his perseverance put to the test.

He had passed his two-and-twentieth year when he went to Hamburg to avail himself of Succow's instructions in mathematics, and, without any false shame on account of his age, to begin his school studies anew. His income was not sufficient to maintain him even with that rigid frugality which was natural to him. He determined, however, to spend just so much of his small capital as would enable him to accomplish his end. He arrived at Hamburg in the summer of the year, 1755, as we find from his letters to president Beym-graben, the only friend of riper age and judgment he then possessed, by whose family they are reverentially preserved.

But just at this time Succow was called to Jena: the mathematical chair was empty, and was not filled until Büsch was appointed to it. The severest application to private instruction was, therefore, necessary to make the lessons at the gymnasium (or public school) intelligible or profitable to him. A countryman of his, named Witke, who, at that time, lived in Hamburg as candidate for holy orders, and who afterwards died at Otterndorf, where he was pastor, gave him this private instruction with true cordiality and friendship. Niebuhr always spoke of him as the person who laid the foundation of his education, and, as such, honoured and loved him with grateful piety. Notwithstanding his uncommon exertions, and the strength both of his body and mind, twenty months, eight of which passed in merely preparatory studies, (for the Latin tongue was almost entirely unknown to him,) were quite insufficient for one who began to learn so late in life; to acquire that quantity of learning which more fortunate youths bring with them to the university. Among other things thus unavoidably neglected was Greek, which he always greatly lamented the want of.

Under Büsch he had begun to learn mathematics: he was the earliest and

the most distinguished of all his pupils, and in after-life became his most intimate friend.

To stop half-way in any undertaking was thoroughly repugnant to his whole character. He had gone to Hamburgh solely with a view to acquire a knowledge of geometry, and of some things commonly taught in schools; but as soon as he had become acquainted with the sciences, he could not rest until he was able to embrace them in all their extent and depth, and in the Easter of 1757 he repaired to Göttingen. His pursuit continued to be mathematics: he was more than ever compelled, by the diminution of his little substance, to aim at some employment by which he could maintain himself, and to which his studies would lead. This he now looked to in the Hanoverian engineer corps, in which (as was the case in almost all the military services of Germany) men of efficient mathematical attainments were extremely rare, and might hope to become the makers of their fortunes by merit.

He studied with the steadiness which a fixed, simple, and prudent plan of life ensures, from the Easter of 1757 (when he came to the university,) for more than a year, undisturbed by the war which frequently raged around Göttingen*.

At this time he recollected that an endowment, or fund for exhibitions, existed at this university, and begged his friend to ascertain whether it was only for poor students, in the strict sense of the word; or whether it was endowed without that limitation, "as a means of persevering in the study of something

useful and important. In this case alone could he allow himself to apply for it." He received it, and reserved it entirely for the purchase of instruments.

At this period Frederic the Fifth reigned in Denmark in enviable tranquillity. Louis the Fourteenth's memory still shone throughout Europe with all that false glitter which had hung around his name during his life, and he was well known to be the model after which the ministers of the Danish monarch endeavoured, as far as it was compatible with the character of a peaceful king, to form their sovereign. Seldom, however, have the aims of a minister been less liable to reproach than those of the then Baron J. H. E. Bernstorff; and among all the statesmen of the continent, there was not, perhaps, one of his time so well informed, so intelligent, and so noble-minded. The truth of the charge brought against him, that the then system of administration was not suited to Denmark, was felt by some of his contemporaries, but this feeling was mixed up with personality and exaggeration. It cannot be denied, that for a century the nation had been declining: this was clearly attributable to two causes, namely, a rage for whatever was foreign, and an internal suffocation of the public mind, perfectly analogous to that with which the Jesuit opposers of the Reformation had accomplished the entire demoralization of Bohemia; and it was obvious that the population, both of the country and of towns, must, by political means adapted to their peculiar situations, be assisted in remedying this evil as much as possible. The extraordinary and beneficent qualities and endowments of the second Count Bernstorff will be remembered by a grateful nation, after a period of disaster, not merely with regret, since what he effected remains indestructible, and forms the sole basis for future reforms and improvements; but as having bequeathed an everlasting model in his administration. Posterity will perhaps mention, as among his uncle's noblest actions, the emancipation of his serfs, or slaves of the soil; the leisure which he ensured to Klopstock, and the scientific expedition he sent into Arabia. This enterprise was originally owing to Michaelis, who had represented to the minister of state that many elucidations of the Old Testament might be obtained by personal observation and inquiry in Arabia, which might

* "The studies of Göttingen," says Mr. Niebuhr, "were indeed but little disturbed by this cause. On the one hand, the French were extremely courteous and insinuating in their behaviour to the distinguished men of letters: (though had Richelieu's plan of devastation been carried through, this city would have been burnt to the ground.) On the other, the learned of that place were so utterly devoid of all the spirit of a patriot or a citizen, that one of them boasted that he had not abused the confidence of a French officer, who had blabbed to him the expedition against Brunswick, in 1762; and even that he had refused one of his pupils the use of his horse, which he begged for, that he might carry to the Hanoverian army intelligence which would have enabled it to surprise the enemy;—it was against his conscience! My father was otherwise-minded, and ventured into the French camp on purpose to gain intelligence. That such an extinction of all manly feeling in men of letters is fatal to science and literature, may be sufficiently seen in the works of these denationalized men."

"A far different spirit reigned at Halle, where, so long as the thunder of the cannon re-echoed from Rosbach, the master of the orphan school, and all his boys remained on their knees praying to God for victory for Frederic and Prussia, as if they had been in a besieged town."

be regarded as hitherto untrodden by European feet. The original idea in the mind of its author extended no farther than this; that a single traveller—an oriental scholar out of his own school,—should be sent by way of India to Yemen; a plan which would then have caused the undertaking to end in nothing, even supposing the traveller ever to have found his way back. Fortunately the minister immediately perceived the defectiveness of the scheme, and replied to it by a proposal to render the mission far more extensive in its objects and outfit. Thus it happened that the original and peculiar aim, at least in so far as concerned the questions which the originator of the plan suggested, dwindled into an infinitely subordinate object; whilst what was accomplished by those two men to whom jointly, and to whom alone, the fame of the expedition is due, grew into an importance, which had been neither foreseen nor aimed at by Michaelis.

The first project was submitted to Baron von Bernstorff, as early as the year 1756. As he took it up with all the vivacity and liberality for which he was so remarkable, and fully empowered Michaelis to propose an oriental scholar to him, it might have been expected that Michaelis would have proposed the man who, among all his contemporaries, was unrivalled for his knowledge of the Arabic language, and, as all Germany knew, was fighting inch by inch with starvation,—Reiske,—whom, moreover, Michaelis had known from the time he was at school. Instead of him, he recommended a pupil of his own, named Von Haven, whose acquirements must, at that time, have been those of a mere school-boy, since a two years' residence at Rome, (whither he went to prepare himself under the Maronites,) and even the journey itself, never raised them above the meanest mediocrity.

Michaelis was also commissioned by Baron von Bernstorff to propose the mathematicians and natural historians, by the fortunate association of whom with the mission that minister gave it value and importance. For the choice of these men he applied to Kästner, one of the Göttingen Society of Sciences, of which he was then director. A student of Hanover, named Bölzing, at first accepted the proposal; but after a short time took fright, and withdrew his promise. Without doubt, Kästner would

have chosen Niebuhr in the first instance, if the latter had studied long enough at the university to have shewn to what a high degree of aptitude he was likely to attain. As yet, little more could be known of him than his application and his excellent character. Fortunately, to that extent, Kästner already knew his pupil; and one day in the summer of 1758, on his way from a meeting of the society, to which he had just proposed Niebuhr, he walked into his room. "Have you a mind to go to Arabia?" said he. "Why not? if any body will pay my expenses," answered Niebuhr, whom nothing bound to home, and whom an unbounded eagerness after knowledge urged abroad. "The King of Denmark," replied Kästner, "will pay your expenses." He then explained the project and its origin. Niebuhr's resolution was taken in a moment, so far as his own inclination was concerned. But as he thought very humbly of himself, and most reverentially of science and of the truly instructed, he despaired of his own ability and power of being useful. On this head, however, Kästner set him at ease by the promise of a long term for preparation, which he might employ chiefly under Mayer in astronomy, and by the assurance that, with his determined perseverance and industry, the allotted time would be fully sufficient. The same evening Niebuhr, who wanted nothing to fix his resolution but Mayer's promise to instruct him in astronomy, went to him. Mayer, who was not so sanguine a man as Kästner, cautioned him against a determination which, with his character, would be irrevocable; while he knew not the dangers and fatigues he was about to brave: he, however, promised the desired instruction.

Michaelis, whom he visited the following day, probably saw levity and precipitation in so prompt a resolution, and pressed upon him a delay of a week to reconsider the matter. It passed, but Niebuhr did not trouble himself with any further deliberation on a subject upon which his mind was already thoroughly resolved, and Michaelis now regarded the engagement as definitively accepted. His conditions were, a year and a half, till the Easter of 1760, for preparation; and, during this period, the same salary as Von Haven received. These were assented to by Baron von Bernstorff without the slightest hesitation. He now lived

solely for his object. He pursued his studies in pure mathematics, perfected himself in drawing, and sought to acquire such historical information as was attainable with that degree of learning which he had so lately and so imperfectly acquired, without neglecting his more immediate objects. He cultivated practical mechanics with a view to acquiring greater dexterity in handling his instruments, and in various manual operations, the acquirement and practice of which in Europe, except for those whose business they are, is but a waste of time. His attention was, however, principally occupied by the private lessons of Michaelis in the Arabic language, and of Mayer in astronomy. These he remembered with very different feelings. For the grammatical study of languages in general he had but little talent or inclination; but his lessons in Arabic were rendered peculiarly distasteful to him by the fact that, at the end of several months, his teacher had not brought him farther than the first fables of Lokmann, and he soon found out that Michaelis possessed no very great store of Arabic philology or learning. He therefore gave up this course of instruction, which Michaelis never forgave him.

Tobias Mayer was undoubtedly one of the first astronomers and mathematicians of his time*. Mayer's zeal for teaching his pupil was as great as Niebuhr's for learning of him. Among all the men with whom he became acquainted in the course of his long life, there was none whom he so loved and honoured as Mayer; and the most intimate friendship subsisted between them. He retained an ardent attachment to Mayer's memory up to the most advanced age, and fate never procured him any pleasure so great, as that of hearing that his first lunar observations reached his beloved teacher on his death-bed, before consciousness had left him, and had cheered and animated his last moments; and that these observations had decided the giving the English premium offered for the

discovery of the longitude, to the widow of the man to whom he felt that he was indebted for his acquirements in this branch of science. Mayer on his part had no more earnest solicitude than to educate a pupil who would apply his method of determining the longitude, and his, at that time, unprinted lunar tables, of which Niebuhr made a copy.

He probably saw that blind, mechanical attachment to old ways and prejudices would for many years retard the reception of his method, but that, when proved by practical application, it would be impossible to stifle it. Mayer interested himself in the outfit for Niebuhr's journey, so entirely as if it had been his own personal affair, that he divided his quadrants with his own hands. The accuracy of this labour of friendship was proved by the observations which were made with it.

The time appointed for preparation had been prolonged by half a year; and it was not till the Michaelmas of 1760 that he left Göttingen. At Copenhagen he was most kindly received by the minister von Bernstorff, and gained his confidence to a greater degree than the other members of the expedition, who were already assembled there before him. As he received a pension from the king during the time of his preparation, he thought himself bound to purchase all his instruments at his own cost. He esteemed himself most happy to procure them in this manner. Bernstorff, to whose knowledge this accidentally came, pressed upon him compensation for what he had thus expended, and committed the travelling chest to him as a proof of respect for his rigid integrity.

He was at this time appointed lieutenant of engineers, a circumstance which only deserves notice for the sake of a letter which places his modesty and judgment in the most amiable light. "He was," as he wrote to a friend, "led to think of a title [for himself by Von Haven's appointment to a professorship of the university of Copenhagen. A similar one had been offered to him, but he held himself unworthy of it. The one he had received appeared to him more suitable. He might have had that of captain if he had asked for it; but that, for a young man, would have been too much. As lieutenant, it would be highly creditable to him to make valuable observations; but, as professor, he should feel it dis-

* The results of his labours were published after his death. They consisted principally of a catalogue of 992 stars, and his famous lunar and solar tables. His valuable theory of the moon, and the laborious calculation of these tables, together with the invention of Hadley's quadrant, in 1731, enabled Maskelyne to bring into general use the method of discovering the longitude by observing the distance of the moon from the sun and certain fixed stars, called the lunar method. Mayer died at the early age of thirty-nine, worn out and exhausted by his incessant exertions in the cause of science.

graceful not to have sufficiently explored the depths of mathematical science." He had at that time no other plan than that of living in his native country, after the accomplishment of his mission, on the pension which was assigned to him.

As more than half a century has elapsed since the death of his travelling companions, there can be no impropriety in recording what he thought and related of them.

Von Haven's uselessness as a linguist has already been mentioned. He had moreover chosen a career, for which, on all accounts, no man was less fitted. His sole thought was to return home; his favourite topic was the comfortable life which he there promised himself: no ardour for discovery or for observation made him forget the fatigues and privations of the journey, and no one had so many wants, and felt so many privations, as he. A dainty table and good wine were, in his estimation, the greatest blessings of life; and in Arabia, where the travellers found only scanty fare and bad water to appease their hunger and thirst, his discontent arose to a despair which often diverted, but sometimes disgusted his companions. He was by nature indolent, and thought himself fully excused from working under such a climate. He likewise frequently shewed himself haughty and conceited towards Forskaal and Niebuhr; he behaved as if he thought himself the highest and most distinguished of the party; and was greatly offended that Niebuhr had the care of the chest. After his death nothing of the slightest utility was found in his meagre journal.

According to Niebuhr's judgment and testimony, Forskaal was by far the most instructed of the party, and had he returned, would have attained to the highest rank among the contemporary men of science, by his manifold and profound acquirements. He had originally studied theology; his eager and free spirit had led him from Sweden to Germany; for a long time he had devoted himself to speculative metaphysics with great ardour; he likewise pursued the study of eastern languages, and at the same time as much of physics and chemistry, as well as of every branch of natural science, as was then known. The metaphysics of a mind of this stamp must have been very different from the scholastic pedantry of the time: the academical works in

which he published his speculations on these subjects passed at Göttingen for odd—in Sweden, for rather bold and flippant; it is matter of regret that we do not know them. He willingly quitted his country, where, after his return from the university, he met with hostility on every side.

He stood in need of no preparation; the proposal for the journey found him perfectly prepared, and that to a degree in which few ever become so. In laborious industry, contempt of dangers, difficulties, and privations, he resembled Niebuhr. Both felt themselves called upon to observe whatever came before them. Forskaal's learned education, however, gave him a great advantage. He acquired languages much more rapidly and perfectly, and was soon able to read Arabic works with fluency. His faults were disputatiousness, caprice, and an irascible temper. Mutual respect and equal zeal produced a stable friendship between Niebuhr and him; but the harmony between them was not without some interruptions, until Forskaal on one occasion discovered that his companion's patience was not completely inexhaustible and impassive. Forskaal's papers have been carefully used by his friend, and what they contained of a narrative kind, or illustrative of the manners of the people, is inserted in Niebuhr's works with the author's name. Of the edition of his works on natural history we shall shortly have occasion to speak. It is painful to see how they have been neglected. Besides the systematical descriptions of new plants and their uses, they are rich in admirable observations on vegetable physiology, and in remarks on the husbandry and geological structure of the countries he traversed, particularly of Egypt, of which no such description previously existed. The late Vahl preserved and restored Forskaal's neglected herbarium, so far as it was still possible, and laboured to do justice to his memory. Linnæus manifested an odious spirit of hostility to his old pupil. Forskaal had told Niebuhr that he wished one of the species of plants he discovered (the one called *Mimosella*, in his *Flora*) to be named after himself. Niebuhr transmitted this wish of a man who had deserved immortality by his labours, to Linnæus; but instead of paying any attention to it, he gave Forskaal's name to another species, also discovered by him, but which conveyed, by its appellation,

the most obvious and malicious allusion to the departed. Niebuhr could never forgive this spiteful trick. Forskaal had also called one species of plants after him, in remembrance, perhaps, of the cordiality with which Niebuhr had assisted in all his excursions and collections. This, however, as he was no botanist, appeared to him inappropriate, and the sole alteration he permitted himself to make in Forskaal's papers, was to erase every trace of the honour intended him.

Of the physician, Dr. Cramer, nothing is to be said, except that the choice of him was most unfortunate; that he was incompetent, even in a professional point of view, but still more so for all the purposes of the expedition. It is to be lamented that Michaelis's wish to engage Hensler the father for the situation was fruitless. The draughtsman, Bauernfeind, was not a bad artist, but an uneducated and extremely narrow-minded man: love of drinking shortened his life.

The journey began under the most unfavourable auspices. The party went on board the Greenland ship of war which was bound to the Mediterranean to protect vessels sailing under Danish colours from English search. The Greenland left the Sound on the 7th January, 1761. Three times she was driven back to the Elsinore roads; nor was it till the 10th of March, the fourth time of her sailing, that she could continue her course to the Mediterranean.

Niebuhr recollected this voyage with pleasure. The noble and beautiful interior of a ship of war, with all its appointments and regulations, the simple and energetic manliness of the sailors, from the commander to the lowest man on board, a class of men whose distinguishing virtues were very much allied to his own, interested and delighted him in the highest degree. Nor did he find the way of life monotonous or dull. Navigation was, at that time, very imperfectly understood: its operations were conducted in a manner rather mechanical than scientific. The officers of a ship going on such a service were, however, doubtless, men distinguished in their profession. Niebuhr endeavoured to make himself acquainted with the construction of the ship; and he exercised himself daily in nautical and astronomical observations which procured him the satisfaction of being regarded by the officers as an active and

useful member of their company. He thus obtained from them that respect and regard which practical men are always ready to bestow on those whom they find to be superior to themselves on any particular subject connected with their own business, and whom they see willing to acknowledge their superiority in other points, and able to appreciate their merits and services*.

Mayer, in the instructions he gave Niebuhr, had constantly kept in view that his pupil would be placed in situations in which it would be absolutely necessary for him to be able to rely upon himself, and where he could not hope for the slightest assistance or support. He had taught him entirely himself, and encouraged him with the assurance that an active and clear-sighted man is generally able to discover means of overcoming the obstacles which may oppose him. His method of teaching, which was entirely practical, was chiefly this. He first described to his pupil the object of the observation and the method of using the instruments: he then left him without any assistance, to try how far he could proceed in his observation and calculation, and desired him to tell him when he came to any insurmountable difficulty. He was obliged to describe exactly how far he had gone on well, and where his progress had been stopped; and then Mayer helped him out. He had been able to exercise himself but little in Göttingen in calculating lunar distances, and was in great anxiety about his future success in that point. The result of his observations during this voyage gave him greater confidence, and ought to have convinced him that he had gone through his apprenticeship, but this his modesty and humility forbade.

A stay of some weeks at Marseilles, and of a shorter time at Malta, procured a very agreeable recreation to the party. The scientific enterprise was known throughout Europe, and we should find it difficult, now, to picture to ourselves the universal interest in its success which ensured to the travellers the most cordial reception and the most respectful attentions. It was an enterprise consonant with the spirit of the times, and nowise

* It is a remarkable fact that in this same year, 1761, our great astronomer Maskelyne was also at sea, and engaged also in instructing the officers of the ship in which he sailed in the lunar method, with a view to its general adoption by our navy, which subsequently took place.

solitary or strange. The King of Sardinia had sent the unfortunate Donati to the East: Asia was become an object of interest to Europeans from the war which the two great maritime powers were then waging in India: England began to send out ships to circumnavigate the globe. It was just that period of general satisfaction and delight in science and literature, in which mankind believed they had found the road that must inevitably lead to perfection: men of letters enjoyed great consideration; and everybody was ashamed not to regard the interests of science and of its followers as the most important interests of the human race.

In both places, they experienced the courtesy and charm of French reception; for, even in Malta, although the ruling body were of all nations, the prevalent manners were French.

The attentions paid in that island were more particularly directed towards Niebuhr; and in the false hope that his religious scruples might be got over, if, at the conclusion of his undertaking, he would become one of their body, the knights of the order offered him all the honours, distinctions, and advantages which they could confer upon him, without an open violation of their statutes.

From Malta the expedition proceeded to the Dardanelles, still on board the *Greenland*, which had taken its convoy to Smyrna. In the Archipelago, Niebuhr was attacked with dysentery, and was near dying. He recovered his health at Constantinople, but so slowly, that at the expiration of two months after the beginning of his illness he had scarcely made sufficient progress to go on board a *Dulcignote* vessel bound for Alexandria, without manifest danger. Here, for the first time, the travellers felt that they were really in the East. The plague broke out among the crowded Asiatic passengers: they, however, were exempt from it.

As we cannot follow him through his minute and accurate descriptions of the places through which he passed, we must content ourselves with a few extracts from his travels, calculated to throw light upon his character; to show that clear and dispassionate judgment, and that freedom from prejudice, which so admirably fitted him for a traveller among people whose opinions and manners are so entirely unlike our own. Passing over his description of Constan-

tinople, we give in his own words his account of the first oriental people with whom he was thrown into close contact:—

“The captain,” says he, “his clerk and his steersman, spoke pretty good Italian. The clerk had been not only in Venice and other Italian ports, but had travelled as far as Vienna. The Catholics had told him just as great calumnies of the other sects of Christians as the Sunnites relate of all Mohammedans but themselves. I once asked him, whether any heathens were to be found in the Sultan’s dominions? In the course of his reply, he said, ‘There are many in Germany and Italy; they are called Lutherans, and know nothing of God or the prophets.’ In religious disputation, he shewed himself a true Mohammedan. One of our company endeavoured to convince him of the truth of the Christian religion. The clerk immediately rose and said, ‘that people who believed in other gods beside the one true God, were oxen and asses,’ and left the room. The good man thus gave us a hint, that we should do well to leave every body undisturbed in the belief that his own religion is the best, so long as he entertains no doubts about it himself. I did not hold it to be any part of my vocation to make proselytes. But when I afterwards inquired of enlightened Mohammedans, concerning the principles of their faith, I took the opportunity of explaining to them various matters relating to the Christian religion; and as I carefully abstained from asserting that it was *better* than the doctrines set forth in the Koran, none of them were in the least offended or displeased.”

In Egypt the party remained a whole year, from the end of September 1761, till the beginning of October 1762, during which time Niebuhr visited Mount Sinai, in company with Forskaal and Von Haven. The party did not go farther inland than Kahira. During their stay in Egypt, Niebuhr determined the longitude of Alexandria, Kahira, Raschid, and Damietta, by means of numerous lunar observations, with an accuracy which the astronomers of Buonaparte’s expedition, to their great surprise, found fully equal to that of their own. They, and the French army, not only found his chart of the two branches of the Nile equally correct, but even his ground-plan of Kahira, taken under the most difficult circumstances, in the

midst of an infuriated and fanatical populace.

"In the year 1801," says his illustrious biographer, "I laid this plan before a French officer who had risen from the ranks during the French revolution,—a man who could hardly write and was wholly unaccustomed to make use of ground-plans, with a view to gain some information concerning the entrenchments thrown up by the French army round the city, and the history of the great rebellion in Kahira. It was some minutes before he could translate the knowledge he had gained from personal observation into the symbolic language of drawing; but as soon as he caught the idea, he found his way, step by step, and could not cease wondering. My father, also, measured the height of the pyramids, and copied many hieroglyphic inscriptions on obelisks and sarcophagi."

At the time Niebuhr visited Egypt, very little information, worthy of credit, concerning that remarkable country, existed. Later travellers have added much to what he obtained; but when we consider under what circumstances of difficulty, and with how little protection, he added such vast stores to the stock of knowledge, we shall acknowledge that none have surpassed; or perhaps equalled him in industry, courage and devotion to his object. Of the obstacles he had to encounter, some idea may be formed from the following extracts.

At Alexandria, he says, "As I could overlook a great part of the old city walls, from the eminence on which Pompey's pillar stands, I took some angles of it from thence, and hoped that I might be able to take others from some other spot. One of the Turkish merchants, who stood opposite to me, and remarked that I had pointed the telescope attached to my quadrant against the city, was very curious to look through the glass, and not a little uneasy when he saw a tower upside down. This gave occasion to a rumour that I was come to Alexandria to turn the whole city topsy turvy. This report reached the governor's house. My janissary refused to accompany me when I took my instrument, and as I thought a European could not venture to appear in a Turkish city without a janissary, I gave up all idea of taking any more geometrical measurements here. Once afterwards, when an Arab of Raschid saw a ship upside down in

my telescope, he was very near throwing the instrument on the ground. I learned by degrees to be very careful of the Mohammedans and their suspicions, when taking my observations, which was the more necessary so long as I was unable to converse with them. . . . 'At an astronomical observation on the southern point of the Delta, a peasant was present, and behaved very courteously. As I wished to show him something he had never seen before, I placed the telescope of the quadrant opposite to his village, on which he was extremely terrified at seeing all the houses upside down. He asked my servant what could be the cause of this. He replied, that the government was extremely dissatisfied with the inhabitants of that village, and had sent me to overthrow it entirely. The poor peasant was greatly afflicted, and entreated me to wait long enough for him to take his wife, his children and his cow, to some place of safety. My servant assured him he had two hours good. He immediately ran home, and as soon as the sun had passed the meridian, I took my quadrant on board again. We must not wonder that Mohammedans were suspicious at the sight of these observations, since Europeans enough might have been found but a short time before, ready to believe every thing enchantment, which they did not understand."

He suggests the expediency of digging round the obelisk at Heliopolis, which, however, he had not the means to attempt. "The common Egyptians," says he, "are very unwilling that the Europeans should dig in the places where antiquities are found, from the idea that we are seeking for treasure. Perhaps, however, they would not forbid it, if the true motive of such researches were explained to the governor of the district, and the work done by his labourers. The peasants of Matara observed me very narrowly while I was measuring the height of the obelisk. They placed themselves at some distance, in consequence of their belief that I should throw up these huge stones into the air by some secret art, and take away the treasures concealed under them. This they were firmly resolved not to allow. They, however, did not speak an uncivil word to me, when they saw that their expectations were not fulfilled."

The following are the circumstances under which the plan of Kahira was

taken, to which his son alludes in the passage just quoted—

“With a view,” says he, “of giving an accurate description of the size and situation of this city, I have given a plan of Kahira and the adjacent towns Bulak, Masr el Atik, and Djize. This was really so troublesome, and, from the noted insolence of the Kahirians to all people of different religions, so dangerous a task, that no European had hitherto been found to undertake it, or will probably speedily undertake it again. I did, however, venture to measure all the streets, all at least which were thoroughfares, by paces, and to determine their bearings by a little compass. There are many parts, consisting entirely of little streets, which have no egress and can be entered only from the main street into which they all run. These are inhabited by labouring men and artisans, who, in the Eastern cities, do not work in their houses, but in little stalls or sheds in the Sûk or market place. As you cannot be supposed to be seeking any man in his dwelling-house, and as it is not the custom in the East to pay your respects to his wife or daughters, the people immediately conclude, if they see a stranger in any of these streets, that he has lost his way, and the first man who meets him, tells him that the street has no outlet at that end, and that he must turn back. It is, therefore, almost impossible for a stranger to obtain any knowledge of these quarters of the town.”

One of the most remarkable objects in this city, is the palace of Joseph. “Here,” says he, “is manufactured the magnificent cloth which is yearly sent as an offering to Mecca by the Sultan. The building still retains traces of its former splendour. In the room in which the weavers sit, the walls are covered with trees, houses, &c., in the most beautiful mosaic of mother-of-pearl, small stones of every variety, and coloured glass. On the walls of another room in which the cloth is embroidered, are some inscriptions in very good preservation. In a third the ceiling is very beautifully painted. Above, on the side of the Kara Meidân, where this great building is supported by a very high wall, springing from a steep rock, is a point commanding a magnificent view of the town, the surrounding country, and the pyramids. Some of the names of former regents of Egypt are engraved here. It appears

that it was the residence of the Egyptian Caliphs and Sultans, and I could not help wondering that the Turkish governors do not inhabit it. I asked the overseer of the weavers, who not only conducted me about the building, but took me to his house and entertained me with coffee, after what Joseph this palace and a fountain in the city were named? He was of opinion that the palace was not more than 600 years old, and was built by Salaheddin, whose original name was Jusof.”

Niebuhr's account of one of the most interesting phenomena in the world, the overflow of the Nile, is so curious, that we may be allowed to interrupt the course of our narrative a little longer, to insert it.

“When the Nile begins to rise, all the small canals which are led off from the main stream to water the adjacent fields, are stopped up and cleaned, and remain in that state until the water reaches a certain height. This height is ascertained by a Nilometer, on the island Rodda. For this purpose, a Sheikh is stationed there, who, as soon as he perceives that the water has risen at all, gives information of it. A number of poor people, who are already in waiting at Masr el Atik, or Fostat, immediately hasten to Kahira, and each spreads the welcome intelligence through the streets of his own quarter. From this time, these people come daily at a certain hour to Fostat, and the Sheikh calls out to them from the islands, how many inches the Nile has risen.

“This is daily made public, until the Nile has reached the height at which it is appointed that the canal which runs through Kahira should be opened, at which time the tribute to the Sultan must be paid, and all anxiety about a scarcity is at an end. The information, however, thus proclaimed, is very little to be trusted. The Sheikh goes alone to the Nilometer, and always, at first, declares the height less than it really is; so that if, at a later period, the water should increase but little for some days, he may then be able to declare the rise greater than it is, in order not to alarm the inhabitants with the fear that the Nile should not reach the desired height. About the time when it was hoped the canal through Kahira would be opened, I sometimes went myself towards the mouth of the canal, to observe the height of the water against a high wall,

and I discovered that the rise which was proclaimed in the city was three times as great as I had found it to be. In the year when I was in Egypt, it was first proclaimed that the Nile had begun to rise on the 29th of June, and, on the 8th of August, that it had reached the height of sixteen Drâ or ells. Hereupon, the dam of the canal of Kahira was cut through with the customary ceremonies, which have often been described. We expected the water in the city, but in vain; for the canal had been so imperfectly cleaned that year, that it was not till the 10th that we saw a little water, whereas we ought to have been able to navigate the canal the first day. This extraordinary event caused a great agitation among the people. It was openly said, that the person who had undertaken to clean the canal would lose his head. He, however, paid a large sum to the government, and was compelled to make a new dam at his own expense, which was thrown across the canal on the 11th of August, and opened, without any ceremony, on the 12th.

“Gabriel Zionita, in his appendix to the description of Africa by the Sherif Edrisi, mentions, as very extraordinary, that the Egyptians have certain tests, by which they can ascertain beforehand how high the Nile will rise, and whether they may expect a plentiful or a scarce season. This, indeed, they think so easy a matter, that almost every Egyptian woman, whether Christian or Mohammedan, imagines herself competent to it. It is the universal opinion in Egypt, that the Nile begins to rise in Habbesh, (commonly called Abyssinia,) on the night of the 17th of June; or, as they express it, that the drop (Nokka) which causes the rise of the Nile, falls. On that night, therefore, the women put a certain quantity of dough on the roofs of their houses, and if this has not increased in weight by the morning, *the drop* has not fallen. But, if the dough is heavier, it has fallen, and they then proceed to calculate with great certainty how many feet the Nile will rise, and what will be the price of corn for the year. As the weather is very regular and uniform in Egypt, it is possible that there is a heavier dew at this season of the year; and as the women never put out their dough except just on the night above-mentioned, they are always confirmed in their faith in the certainty of their test. As some of the Kahirians

reckon time according to the Koptish calendar, the women were not all agreed on which night *the drop* fell. Other experiments of the same kind are yearly made, but intelligent Mohammedans regard the whole thing as mere pastime for the women.”

The arrogant intolerance of the Mohammedans, which keeps pace with their ignorance and superstition, he describes as follows:—“The Jews, the eastern Christians, and even the Europeans, are allowed to ride only on asses in the city of Kahira, and from these they must alight whenever they meet a Bey, or any other Mohammedan of importance. These gentlemen never appear in the streets except on horseback. One of their insolent servants goes before, with a thick stick, and calls out to every Jew or Christian he meets riding on an ass, (unless he dismounts of his own accord,) ‘Dismount!’ If the command is not instantly obeyed, the servant often lets him feel the effects of his reluctance, without waiting to remind him a second time to pay the required homage to his master.

“A few years ago a French merchant was crippled for life, on one of these occasions. Our physician was insulted because he did not dismount quickly enough. This renders it impossible for any European to ride out here without a man who knows all those persons who claim the right to force people of a different religion to dismount. I rode at first with a Janizary before, and a servant behind, me. Both were Mohammedans, and remained seated, while I was compelled to alight. This annoyed me still more than the humble reverence I was obliged to show to the great men, and I afterwards went almost constantly on foot. Christians and Jews are also forbidden to ride past the mosques, and many other public buildings. Some, they are not even allowed to pass on foot. Yet I never could ascertain whether there was any positive law prohibiting them from riding on horseback in Kahira. Not many years ago there was a rich English consul in this city, who dressed like a wealthy Turk, and constantly rode on horseback. His fortune enabled him to visit all the Turks of distinction, and to entertain them in return. As he rode along the streets, he distributed alms largely, and became very popular. The consuls now ride on horseback only on the days on which they have audience of the Pasha. They are then very richly

and splendidly drest in the European fashion. I do not wonder that they are compelled to hear so many insulting expressions from the people on these occasions, for our short and straight clothing is, in the eyes of all eastern people, highly indecorous for a man of any respectability, and gold and silver are never seen on their garments. But all other times the Consuls wear the long Turkish dress, and are obliged to do like the eastern Christians and Jews, to dismount at the appointed places, or when they meet any distinguished Turks."

Niebuhr's accounts of the agriculture, the products, the implements and machinery, the trade and manufactures, the dress, manners, and amusements of the Egyptians, are full of interesting, clear, and accurate detail, and are, above all, marked by that perfect fairness and anxiety in no degree to exceed or warp the truth, which was, perhaps, his most striking characteristic. We have space only for a few sentences relating to the trade in gum arabic:—

"Among the products with which the Europeans are conversant, is the so called gum arabic, which the Arabs yearly bring to Kahira, in the month of October. They come in two or three small caravans, and the quantity is from six to seven hundred quintals. The trade is entirely in the hands of Mohammedan merchants. The Arabs never bring their wares into the city, but remain about a mile from Kahira, and the merchants must consent to go to them. They do not sell their gum by weight, nor do they show any samples, but keep it in untanned and closely sewed skins. They very rarely suffer a buyer to cut open these skins before the bargain is quite completed, and if any objection is afterwards made to the quality of their gum, they never take it back. Some of these Arabs mix little pebbles, sand, and bits of wood, with their gum. It might happen that they might afterwards be caught in the city, and probably for this reason: they give no credit, but exchange their gum for clothing, arms, or whatever they want, and immediately return to their deserts. I know not whether the Arabs deserve most the reproach of cheaters or of inexperienced dealers. They love freedom and few words. If they understood the art of spreading out their commodities, and calling to all passers by to look at them, those at least who had clean and good gum to sell would get a much higher price for

it than they actually do. Most of it goes to Leghorn and Marseilles. In the months of April, May, and June, come many caravans from Africa, with three different sorts of gum, with elephants' teeth, tamarinds, slaves, parrots, ostrich feathers, and gold dust. They exchange these for linen, glass beads, coral, amber, sabres, and all sorts of clothes, which the Kahirians make according to the taste of the Africans."

The following is his description of the outfit of himself and his companions for their expedition to Mount Sinai.

"We had made careful provision for everything which we thought necessary for the journey before us; we had abundance of eatables, a tent, and beds. Most of the utensils carried on expeditions in these countries have already been described and drawn by other travellers; and, indeed, some of them are so convenient, that they might be introduced into European armies with great advantage. Our little kitchen apparatus was of copper, well tinned inside and out. Our butter we carried in a sort of pitcher made of thick leather. Table-cloths we did not want. A large round piece of leather was our table. This had iron rings attached to its edge, through which a cord was passed: after dinner it was drawn up, slung over a camel, and thus served the double office of a table and a bag. Our coffee-cups (saucers we had none) were carried in a wooden box covered with leather, and wax candles in a similar box, inclosed in a leathern bag. In the lid of this box was a tube, which was our candlestick. Salt, pepper, and spice we also kept in a little wooden box, with several lids screwed one over another. Instead of glasses, we had little copper cups, beautifully tinned within and without. Our lanterns were of linen, and could be folded together like the little paper lanterns which children make in Europe, only that our's had covers and bottoms of iron. Each of us was furnished with a water pitcher of thick leather, out of which we drank: and as we sometimes found no water for two or three days, we carried a good many goat skins filled with it. We also took two large stone water-jars with us, that we might be able to carry water ourselves on the journey from Suez to Djidda. Our wine we kept in large glass flasks, each holding twenty of our bottles. These vessels appeared to us the best for the purpose; but when a camel falls, or runs against another with his

load, they easily break, and therefore travellers in the East would do better to put their wine and brandy in goat skins. The hides which are used to contain water have the hair on the outside, but those for wine have it on the inside, and are so well pitched, that the liquor acquires no bad taste. And if Europeans do at first feel some disgust at drinking what has been kept in such vessels, they are, at least, freed from the fear of losing their wine, as we did. Wood or coals travellers seldom take with them. At the places where the caravans halt, they generally find the dried dung of beasts, and this they use as firing when they can procure no wood or sticks in the neighbourhood."

In October the party set sail for Suez, on board a Turkish vessel; they landed at Djidda, and reached Loheia, the first point of their proper destination—the country of Yemen—at the end of the year 1762. On this journey Niebuhr made astronomical, geographical, and geodætical observations, as often as possible, and made some inquiries respecting the currents. Out of these laborious investigations grew the chart of the Red Sea, which, with reference to the circumstances under which it was made, and the means at his disposal, may be regarded as a masterly work.

After some stay in this agreeable town, the party, especially Forskaal and Niebuhr, travelled through western Yemen, in various directions; the former botanizing, the latter ascertaining the geographical situation of places. They then returned to the sea coast to Mokha, where Von Haven died about the end of May, 1763.

At the same time Niebuhr was again attacked by dysentery, and was only saved by the greatest care and temperance. After many delays and difficulties, and before he was perfectly recovered, he set out, undismayed by the danger he ran, with the rest of the party, for the capital, Sana. The climate, and numerous annoyances, which Forskaal had partly brought upon himself, partly aggravated through his caprice, brought on a bilious disorder, of which he died at Jerim, on the 11th of July, 1763.

Niebuhr was the more depressed at his loss from his own protracted illness. He set out, with the two survivors, on the road to Sana, but without the slightest hope of returning, and fearful that no precautions could ensure those papers which were not left in the care of his

English friends at Mokha, reaching Europe. This was a source of much greater anxiety to him than his life, to which he never held with any very great eagerness. He feared the entire frustration of the object, and, with good reason, the injustice which might be done to his and Forskaal's discharge of their duties. This was the only point of time during his whole expedition at which his spirits completely sunk.

At length he found himself in that state of dull resignation into which Europeans in the torrid zone generally sink, when under the influence of sickness and depression. He, who, both earlier and later in his journey, struck into the most toilsome path on the slightest rumour of an inscription or a ruin, could not now be stimulated to quit the high road to copy the Hamjarish inscriptions at Hoddafa;—an omission which any one, who imagines himself in his place, will easily excuse him for; but for which he used bitterly to reproach himself after a lapse of fifty years.

From the same causes the survivors declined the cordial and friendly invitation they received to pass a whole year in Sana and Upper Yemen; which would have been quite agreeable to the original plan. They hastened, on the contrary, to reach the coast before the English ships sailed. Their haste was much too great, for they had to wait the whole month of August, and more, before the vessel in which they were to sail was ready. Mokha, situated in the arid desert of Tehama, is, during summer, a horrible residence, and but few days elapsed before the surviving travellers and their servant were attacked with the fever of the climate.

Bauernfeind and the servant died at sea. Cramer reached Bombay, languished for some months, and died. Niebuhr was saved by that extreme abstemiousness which renders a tropical climate as little dangerous to Europeans as to natives. While he was labouring under the dysentery, the physician had told him to abstain from meat, and to eat nothing but bread and a sort of rice soup. This regimen cured his illness. At the end of several weeks the physician learnt, with astonishment, that Niebuhr was patiently continuing a diet by means of which few Europeans could be induced to purchase their lives, even when labouring under dangerous illness.

The merchant to whom the ship

which conveyed Niebuhr from Mokha to Bombay belonged, was Francis Scott, a younger son of the Scotts of Harden, a Jacobite family of Roxburghshire. He became his intimate friend. "Five and thirty years afterwards," says his son, "when I studied in Edinburgh, I was received, in all respects, as one of the family in the house of this venerable man, who then lived at his ease in the Scottish capital, on the fortune he had acquired by honourable industry.

"The reception he met with from the English was extremely cordial. Bombay was, indeed, in a very different state from that which it now exhibits. The governor, instead of being a highly cultivated and scientific man, like many of those who have since filled that office, was, in conformity with the old system of the Company, a factor, who had risen by service; the council were men of low education and habits; the officers, for the most part, were men of various nations, who had entered an obscure service as a refuge from disagreeable adventures, or from indigence. Yet, even in this infant colony, the noble English spirit was not imperceptible; and, besides Scott, there were many in whom the vigorous, sensible, upright national character had wrought out for itself an education which cannot be given.

"In Egypt, Niebuhr had first learned to delight in the society of Englishmen; and there was laid the foundation for that mutual attachment, which was permanent, and of which I shall have occasion to speak more hereafter."

Among his most intimate friends were Captain Howe, of the Royal Navy, brother of Admiral Lord Howe, and of General Sir William. From him he received some admirably drawn charts of the Indian seas, and detached parts, roads and harbours of the south-eastern coast of Arabia. He had great pleasure in being able to requite his friend's gift by another, which might serve as a token of his gratitude to the English nation for their hospitality: this was, a copy of his maritime chart of the Red Sea which he had completed at Bombay, and which, from Djidda northwards, was new to the English, no British vessel having as yet navigated that sea. A few years afterwards they attempted the navigation of it with the aid of this very chart. Since that time it has been greatly improved and perfected by Englishmen: the eastern shore by Sir Home Popham; the western, which

in Niebuhr's chart is deficient, by the expedition planned by Lord Valentia; the groundwork of these now perfect charts is, however, his.

At Bombay, Niebuhr learned the English language. He also endeavoured to acquire all the information possible from the Parsees and Hindoos, visited the excavated pagodas of Elephanta, and made drawings of the sculptures.

Lastly, he employed himself in arranging his journal, and sent a copy of it through London to Denmark. He also made use of an opportunity to visit Surat.

It was originally settled that the travellers should return by India: when, however, the inclinations which had first prompted Niebuhr to undertake the journey had returned in full force with the return of health, this plan displeased him, and he determined to make his way back overland. To achieve this, he was obliged to relax a little from the intense and wearing application to his original pursuit. From the time he quitted Bombay, where he learnt the death of his friend Mayer, (without whose examination and sanction he did not dare to trust himself, as he might and ought,) he gave up his observations for the longitude; to which he was further induced by the death of his Swedish servant, whom he had taught to assist him in the mechanical part of the observations. This is greatly to be regretted, for Persia and Turkey in Asia still present a wide and untrodden field for observations of this kind. Those who saw what pain this gave him in his old age, rather felt inclined to love and admire his zeal and modesty, than to lament the omission of a work he so much desired to perform.

In December, 1764, after a stay of fourteen months, Niebuhr quitted Bombay, visited Mascot, and made himself acquainted with the state of the remarkable province of Oman. He, however, did not remain there long, but went by Abusheher and Shiraz to Persepolis.

The drawings of the ruins, inscriptions and bas-reliefs of Persepolis, made by three preceding travellers, had forcibly drawn Niebuhr's attention to them as the most remarkable monument of eastern antiquity: no other, either in Asia or in Egypt, awakened such well-grounded hopes of being able to understand and interpret historical records

by a discovery of the meaning conveyed in the symbolical sculptures; and his acute and experienced eye immediately taught him the incompleteness of all the existing drawings. Nothing of all that he had seen in Asia raised his expectations to such a pitch; he could not rest till he reached Persepolis, and the last night of his journey thither was perfectly sleepless. The picture of these ruins remained during his whole life indelibly engraven on his mind—they appeared to him the crown and glory of all he had seen.

He passed between three and four weeks amidst them, in the desert, in unremitting labour, measuring and drawing the fragments. The inscriptions on the walls, which were at a considerable height, were distinctly legible only when the sun shone upon them; and as in this climate the hard polished black marble is not corroded by weather, his eyes, already greatly enfeebled by incessant labour, were attacked by a very dangerous inflammation. This, joined to the death of his Armenian servant, compelled him, in spite of his strenuous resistance to these complicated difficulties, to abandon the ancient sanctuary of Persia before he had thoroughly exhausted its treasures.

He returned by way of Shiraz and Abusheher, and from thence across the Persian gulf to Bassora. In Persia he collected historical documents concerning the fate of this unfortunate country, from the death of Nadir Shah up to his own times. With these he conferred a value little known on the German translation of Jones's History of Nadir Shah, the original of which was written in French. The information concerning that period furnished either by Olivier, or by Sir John Malcolm, is not (to use the most modest language) more valuable than that for which we are indebted to him.

In November, 1765, he went from Bassora through Meshed Ali and Meshed Hussein, two places of resort for pilgrims, but hitherto unvisited by any European, to Bagdad, and from thence through Mosul and Diarbekr to Haleb, where he arrived on the 6th of June, 1766. He was now perfectly at home: since he had been alone, he had been at liberty to conform, without molestation, to oriental manners and customs. He was, moreover, now living in a perfectly healthy country, and was as well as at any period of his life.

During this year and a half he had had scarcely any intercourse with Europeans, except at the remarkable Dutch establishment at Karek. In many of the large Turkish cities he visited were convents of Catholic missionaries; these men he regarded with the utmost aversion as disturbers of the tranquillity of the unfortunate native Christians, and of course shunned them. That among these missionaries, by far the greater number of whom were quarrelsome, malignant and ignorant, there were some scattered instances of such sanctity of life as is rarely to be met with in any other class of men, he bore ready testimony. At Bagdad he had become acquainted with Father Angelo, who had nursed many thousand people of every nation and religion in the plague, and whose life had been saved by a crisis which, to pious minds, appeared miraculous, when he was himself attacked by that frightful disease.

At Haleb, however, he found himself in a numerous society of consuls and merchants of all the nations of Europe, in consequence of the profound peace, living in undisturbed harmony. Some of them were married, and their houses afforded the charm of European domestic life, under the directing hand of woman.

His dearest and most intimate connexions were here also with Englishmen. Here he became acquainted with Dr. Patrick Russel, the author of the work on the Plague, and editor of his uncle Alexander's Description of Aleppo. "This respected friend of my father," says Mr. B. L. Niebuhr, "I had also the satisfaction of knowing many years afterwards, and of hearing from him many histories of by-gone days, told with a heart overflowing with the warmest affection and veneration."

Count Bernstorff had very readily consented to the extension of Niebuhr's journey. When this became generally known, the Count was solicited to allow him to visit Cyprus, for the purpose of copying again the Phœnician inscriptions at Citium, which might be supposed to be at least as incorrectly copied by Pococke as the Greek ones which he has given. He found no such inscriptions; and was inclined to suspect that those in question were only old Armenian inscriptions, (like some which he himself met with at Saline near Larneca,) badly copied by Pococke. It appears more probable that the stones had, in the interval, been removed.

An opportunity of going to Jaffa tempted him to visit Palestine, the geography of which was entirely undetermined by any astronomical observations, while no authentic ground plan existed of the topography of Jerusalem. In this he had made as much progress as the time permitted, in the beginning of August, 1766, when he retraced his steps to Jaffa, made an excursion from Sidon over Mount Lebanon to Damascus, and then returned to Haleb.

Five months and a half after his first arrival at Haleb, on the 20th of November, 1766, he set out to return directly home. He went with a caravan as far as Brusa. Lesser Asia, the land on the coast lying open to the south, excepted, is very cold in winter; and on the table-land of Mount Taurus our traveller suffered as much from frost, piercing winds and snow drifts, as he could have done in a winter journey in northern regions. In the warm and beautiful Brusa he reposed from this suffering, to which he had long been a stranger, employing his leisure, as usual, in working at his journal and charts. He reached Constantinople on the 20th of February, 1767.

He passed between three and four months in the capital of the Turkish empire, with which six years before, sick and a stranger in the east, he had been able to make himself but imperfectly acquainted. He had now seen many Turkish provinces, and knew their institutions and the revolutions which had taken place in them. In the capital he sought and gained information as to the general government and military establishments of the whole empire. His treatises on these subjects, remarkable for their solidity and completeness, are printed. Turkey in Europe can furnish attractive occupation only to scholars, to whom it is not Turkey, but Greece and Macedonia, and whose eye and imagination are ever in search of vestiges of past glory and greatness. Niebuhr travelled rapidly, through insecure and almost impracticable roads, to the Danube, and but little more slowly through Wallachia and Moldavia, in the capital of which latter the plague was then raging. About the middle of July he once more set foot on Christian ground at Zwanick.

King Stanislaus Poniatowsky, a man of refined and literary tastes, and imbued in the highest degree with that veneration for knowledge and science

which characterized his age, had made known to the Danish government his wish that Niebuhr should direct his course homeward through Poland. He received the distinguished traveller with the manners of a polished gentleman, who takes the utmost care that his guest should not feel that he was invited as a curiosity. He effectually succeeded in winning our traveller's heart, and for many years a correspondence was carried on between them. Niebuhr, who had been so long without any intelligence from Europe, and knew nothing of what had been going on there, when civil war broke out in Poland, regarded the confederates as rebels, and his royal friend as a persecuted, but legitimate and excellent monarch.

On the way from Warsaw he visited Göttingen and his beloved native place, where the death of his mother's brother, during his absence, had left him in possession of a considerable marsh-farm. He reached Copenhagen in November, and was received by the court, the ministers, and men of science with the greatest distinction. Count Bernstorff, who knew how to appreciate him in every respect, and who moreover considered his own honour, as projector of the expedition, implicated in the manner in which it was achieved, appeared to wish to prove his gratitude to him by the most friendly and cordial reception. Niebuhr was intimately acquainted with him, and through him with his immortal nephew, the second Count, and with the Dowager Countess Stollberg, and her sons, then boys*.

Klopstock and the domestic friends of the minister were also in habits of intimacy with him. His own dearest and most confidential friends were Professor Krazenstein and his excellent wife.

His first business was to submit his accounts for inspection. From these he could not himself ascertain the whole cost of the expedition, since they did not include all the preparatory expenses; and it appears that he had neglected to procure for himself a copy

* The Counts Stollberg remembered how Bernstorff used to communicate Niebuhr's letters to their mother, and what a treat the reading of them was to themselves. These letters contained many lively traits which their author either did not think proper to insert in his journal, or omitted in writing his description of his journey, regarding them perhaps as trivial and of no importance to science. It is much to be regretted that we have not been enabled to avail ourselves of them for this biography.

of the general account. None at least was found among his papers, and he quotes another authority to prove that the whole expedition cost only 21,000 reichsthalers — (3,780*l.* sterling.) We recollect having heard another sum stated at Copenhagen; but it was very little higher; probably some information on the subject may be found in the Kiel journals of the time. The expense, on any calculation, was so extremely small as to excite the greatest astonishment. It would necessarily have been much greater had not Niebuhr been the sole survivor for nearly the whole of the last four years; but, although the sources of expense were thus greatly diminished, they were still more so by his scrupulous integrity; — not only in avoiding every outlay not essential to the object, but in paying out of his private pocket for everything which could be regarded as a personal expense.

“A far heavier account,” says he, in the notes of his life which he wrote for his immediate friends, “was that which I had now to render to the public concerning my travels.” The materials in his journal and papers were extraordinarily rich and various. That he now laboured at their arrangement and completion with all the truth and simplicity natural to him, will readily be believed; his distrust of his ability, however, amounted almost to despondency. We have already seen how he had grown up to manhood almost entirely without acquaintance with literary pursuits: nor was this all; he had read little connectedly, especially in German. The high German, or written language of Germany, was not his mother tongue; it was only as a young man that he had familiarized himself with it, nor was he ever master of it in all its extent and richness. But he was still more afraid lest, from want of learning, he should state facts in an erroneous or incongruous manner, and consequently be misunderstood and unfairly judged.

His first notion was to publish two works before he published his travels; the one consisting of replies to the queries addressed to the members of the expedition, to be extracted from his own and Forskaal's papers, the other of a collection of all his astronomical observations.

It might certainly have been expected that some queries would have been digested and given to men whom Michaelis

was sending to explore new countries, and that a solution of them would have been demanded. So far, however, was this from being the case, that more than four years after the first conception of the project, when the expedition sailed from Copenhagen, he had prepared only two very insignificant questions; the remainder they received, at three several times, on the journey.

Incomparably more important than any of these, was the paper containing topics of inquiry concerning the history of Yemen, compiled by the *Académie des Inscriptions et Belles Lettres*, with that true oriental erudition for which France had long been distinguished. A translation of them is to be found in Niebuhr's works, after the queries of Michaelis. As the latter are well known, the public can judge whether they deserved answers, and whether it was possible to answer such questions satisfactorily. The philologist of the expedition was, at all events, totally incompetent to the investigation; it was Forskaal, indeed, who took it upon himself, and who, from the diversity of his talents and knowledge, was the only person at all fitted to it. As long as he lived, Niebuhr, who understood nothing of Hebrew, regarded these inquiries as only indirectly connected with his pursuits; though, indeed, he neglected nothing which could be of the slightest utility to science. When, however, he remained the solitary survivor, he spared no labour in collecting answers to the queries. He thus fulfilled, to the utmost extent, all that could be required of him. To him, what was accomplished appeared very little, and the extreme modesty of the expressions in his preface ought to have disarmed even such enmity as that displayed in the attack upon him in Michaelis's biography.

As he now thought, and with justice, that these answers were too insignificant to form a work distinct from his great one, there were other causes which decided him not to publish the astronomical observations separately.

His fears concerning the accuracy of his lunar observations, and the calculations founded upon them, have already been mentioned. Had Mayer lived, he would have examined them, and, once assured of their accuracy by him, Niebuhr would certainly have published them with perfect confidence. He, however, could now find nobody on the continent who was master of Mayer's

method, and willing and able to tranquillize his fears and encourage his diffidence by examining them.

It was also a most adverse circumstance for him that Father Hell, who had been sent to Wardöhuus to observe the transit of Venus in 1769, was then staying in Copenhagen. Father Hell was unquestionably an able astronomer, but prone to depreciate and to thwart the works of all other men. This accounts for his having taken pains to decry the quadrant which Niebuhr had constantly and most ably used, as an imperfect instrument;—a matter upon which he completely altered his tone when he took this very instrument with him to Norway. He was a declared enemy to Mayer's method; and as Niebuhr, with all the humility natural to him, acknowledged his superiority as a scientific astronomer, Father Hell took advantage of this to increase his diffidence as to the value of his observations, and to maintain that the only certain method of ascertaining the longitude was by the eclipses of Jupiter's satellites. Niebuhr had also made some observations of these eclipses. The scientific readers of his travels will recollect that the longitude of Loheia is determined by them, and that he ascribed the calculation to Father Hell. The impression which the crafty jesuit made upon his mind with respect to his lunar observations, was in the highest degree unfortunate. He had not, indeed, lost his own faith in his observations, but he now feared doubly for the reception they would meet with from the public, and thought he should be compelled to abandon them until somebody should be found who would examine and verify them. This was afterwards done by Bürg.

He now came to the resolution to work up his materials in the form in which they afterwards appeared. For the publication of these two works, Bernstorff procured him very liberal support from the Danish government. All the copper-plates were executed at its cost, and given to Niebuhr. The rest of the expenses he defrayed, having adopted the unfortunate plan of publishing the works himself.

While he was occupied in preparing his description of Arabia, the political circumstances of Denmark changed in a manner the most painful to him. Struensee had got possession of the government, and even of abso-

lute power, and Count Bernstorff was dismissed. Niebuhr did not think fit to take upon himself the character of a public man; his desire on this, as on other occasions, was not to be conspicuous; but he was far from disowning his warm attachment to Bernstorff at a time when all the timid fell off from the discarded minister: Niebuhr, with a very small number of faithful friends, accompanied him to Roeskilde. He never deigned to pay a visit to Struensee, nor would he appear in any place where he was likely to meet the mischievous despots of that unparalleled epoch. He spoke his mind freely; he rejoiced when the people rose against the enemies of their country, and shared the triumph of their downfall.

The Description of Arabia appeared at Michaelmas, 1772. A book of this kind could not become popular; it was, indeed, fitted only for the few. It is, however, difficult to understand how a critic could be found with effrontery enough to write such a review of a book so truly classical, so full of information, and, at the same time, of modesty, as that which appeared in the *Lemgo Scientific Journal*. It was manifestly dictated by a desire, not to enlighten the public, but to destroy the book. Personal hostility had blinded the writer, or envenomed his mind; he, however, attained his end—he deeply wounded an unpractised author, whom the cool reception of the public had already sufficiently discouraged.

Niebuhr expected that his work would excite a more lively interest abroad than in Denmark; and the appearance of the French edition, which he published the following year, seemed well calculated to realize his expectations. In publishing this, however, two great errors were committed, which increased the influence of the adverse star that presided over all his literary undertakings. The translation ought to have appeared at the same time with the original. Time had now been given for a Dutch publisher to make the same speculation, and the two translations came out at the same time. But however bad and impure was the French of Holland, and to however small a portion of praise the translation which appeared there is entitled, it unfortunately happened that the one made at Copenhagen by a refugee priest was much worse. So utterly unreadable, indeed, was it, that nothing but its

novelty could have procured it any notice whatever. Niebuhr, who understood only just so much of the language as was necessary to make himself understood, was unhappily no judge of this, and threw away all the money this abortive undertaking cost him.

At this time a sort of diplomatic messenger, sent to several of the northern courts of Europe by the Pasha of Tripoli, arrived at Copenhagen. His name was Abderrahman Aga. The object of his mission was to beg those presents for his master, which the feeble government of Tripoli had no longer power to extort. It was also a favour conferred upon the ambassador, who was entertained at the cost of the courts he visited, and received presents for himself. The Danish ministry had assigned him a man as companion and attendant, who had formerly been consul in Barbary, and was supposed of course to understand Arabic. The Tripolitan, who was a very intelligent man, found him extremely dull, and almost entirely ignorant of the language he was employed to interpret. Niebuhr, who cherished the feelings of a countryman towards all orientals, visited Abderrahman. He was delighted with an opportunity of speaking and hearing Arabic, of reviving his already diminished facility in it, and of gaining from a native, information concerning the regions where that language is spoken which he had not visited. From him also he gained much interesting intelligence of Tripoli and Barbary. The details which he gathered concerning middle Africa were of a much more important kind; and are the first calculated to throw any light on those unexplored regions, collected since the time of Johannes Leo Africanus.

During two centuries and a half the numerous Europeans who returned from the northern coast of Africa and from Egypt, had not contributed the smallest addition to the stock of knowledge on this subject; and geographers could only, with different degrees of critical acuteness and of intelligence, compare and adapt the accounts given, at an interval of four centuries, by Sherif Edrisi, and by Leo. D'Anville's acuteness in divining the geography of Africa, viewed with reference to the extreme poverty of the data, appears perfectly marvellous. Niebuhr's details were collected sixteen years before that passion arose in England for the discovery of Africa, which has since led so many travellers thither.

Their accuracy has been wonderfully confirmed, and they afford one of the most convincing proofs of his talents for geographical research.

Abderrahman Aga visited many of the countries and capitals of Europe, but Niebuhr was the only man then to be found who knew how to turn this opportunity to the account of science. His testimony was most valuable. He had not, indeed, crossed the Sahara, or visited Negroland, but he traded thither; and besides the interest which he took in the country as a merchant, he had that ardour for geographical research which is very extensively diffused among the nations of the east, and is promoted by the paucity of their subjects of conversation. He likewise had some knowledge of the Negro languages: from him, and from one of his black servants, Niebuhr collected various specimens of these dialects.

The discovery of two great Mohammedan and civilised kingdoms in central Africa; the Tripolitan's assurance that a traveller, sufficiently acquainted with eastern manners and customs to pass as an Asiatic, would meet with no greater difficulties there than in Arabia, and with less fanaticism than in Egypt; the undoubted good faith and cordiality of Abderrahman's invitation, and of his promise of all possible recommendations and assistance; the consciousness of the knowledge, aptitude, and familiarity which he had acquired, joined to that longing after the deep and solemn tranquillity of Eastern lands, which other Europeans who have been long resident in them have felt;—all these causes united, awakened in his mind so intense a desire to travel by way of Tripoli and Fezzan to the Niger, that he would probably have set out at his own expense, without any assistance from the government, had he not been withheld by the duty of first finishing the account of his travels. Whatever were the countless dangers which threatened him, we are justified in believing that in all human probability he would have surmounted them. The Moorish merchants, who, through the first injudicious visits of the English expedition, became suspicious and jealous, would have received him without any hostile feelings, and for the difficulties of the journey he was as well prepared as an Asiatic. His talents and fitness for the undertaking were too peculiar and remarkable, and too tho-

roughly tried, not to promise him results greater than those which any other traveller, excepting only Brown, could expect.

But the course of his life was now to be changed. Had he remained single, he would have hastened to finish his work, in order to attempt this attractive adventure; but at this very time he became acquainted with the daughter of the deceased physician Blumenberg, a Thuringian, and was soon betrothed to her. This was his first and only love; and that it was deep and strong is sufficiently proved, by his sacrificing to it the journey of discovery which he had so passionately desired, and the oriental life which was so agreeable to him. He married in 1773. His wife bore him two children, a daughter, and B. G. Niebuhr, the illustrious author of the most learned and valuable researches into the history of Rome which have ever appeared, from whose life of his father this memoir is chiefly taken.

The first volume of his travels appeared at the Easter fair of the following year, 1774. This caused him to visit the fair; but, even had he not been led to Leipzig by business, he would have been induced to go by his desire to become personally known to Reiske. If any man in Germany ever experienced the misery of persecuted excellence, it was Reiske, whose cotemporaries could not but admit, that if any imperfection now and then appeared in his learning, it arose only from the extent and fulness of his genius and imagination; and that what was ill natured and unamiable in his writings, was the offspring of his bitter feelings at being trodden underfoot by the tyranny of literary envy. "It is not without pride," says Mr. Niebuhr, "that I affirm that my father and Lessing were the only men who did honour to him while living: my father publicly bore testimony that, even among the Arabs themselves, he had never met with a man so profoundly versed in their literature."

In spite of the very unfavourable experience he had already had of publishing on his own account, he held himself bound by a sacred duty to his departed friend to publish Forskaal's works on natural history. This acquittal of a debt to friendship occasioned him a greater loss than all his other publications, from the unavoidably small sale of the work. It was

impossible to print from manuscripts in so confused a state, nor could Niebuhr undertake to arrange them, totally unacquainted as he was with the natural sciences, and little versed in the Latin language. He entrusted the task to a Swedish man of letters, and paid him a very considerable sum for its execution. This Swede was a strange man, and, among other things, importuned Niebuhr to let the preface appear in his name; his compliance with which was afterwards a cause of great regret to him. The extraordinary value of this neglected and forgotten work has been mentioned.

Already discouraged by the very considerable sums he had either wholly sunk, or, at least, locked up for a long time, in his literary undertakings, he delayed the publication of the second volume of his *Travels*, which did not appear till 1778. According to his original plan, this ought to have come down to the termination of his expedition; he broke off, however, at his arrival at Haleb. The remainder of the journey, together with remarks on the Turkish empire, on the Mohammedan religion, details concerning Abyssinia which he had collected at Yemen, and those relating to Sudan which he had obtained from Abderahman Aga; lastly, the whole of his astronomical observations, were to compose the third volume, which he then thought would very soon follow the others, but which never appeared, though he was so often and so earnestly urged to publish it by his friends and admirers. The causes which hindered his complying with their wishes will be stated in the sequel of this narrative.

He lived very contentedly at Copenhagen, in the bosom of his family, and of a small circle of friends; but the loss which he sustained from the retirement of Count Bernstorff was never supplied. Misunderstandings and differences some time afterwards troubled his outward comfort; and as he easily took a disgust at a place of residence in which he had experienced vexations, he began to grow averse to this city, although he had lived happily in it for ten years, particularly as he heard that General Huth intended to send him into Norway on a geographical survey of that country. This mission was extremely distasteful to him; he did not like to be separated from his family, and he could not take them with him into the wild mountains of Norway. He therefore endeavoured to quit

the military service, and to obtain a post in the civil service of Holstein. The government acceded to his wishes, and gave him the situation of secretary of the district (*landschreiber*), at Meldorf; an office, the duties of which were not at that time very burthensome. In the summer of 1778, he arrived with his family at that place, in which he remained till his death.

Meldorf, the chief town of the old republic of Ditmarschen, formerly rich and populous, is sunk into obscurity and desolation. It was twice taken, plundered and burnt, both in the successful war of subjugation, and in that of vengeance and liberation, which followed it. This, added to the grievous contributions extorted from it in the thirty years' war, and the famine which arose out of the universal decay in which the country languished from the year 1628, till the rise of the price of corn in 1790, completed its ruin. Numerous vestiges of the good old times are, to those acquainted with its history, melancholy memorials of its lost and irrecoverable prosperity. Quiet and deserted as the place was, it may readily be supposed that it was entirely without the sort of society suited to a man of Niebuhr's tastes and character; for he was, unfortunately, little versed in the learned languages, and he remained a stranger to the excellent man who is still the ornament of the place, until he became indebted to him for the philological education of his son.

Meanwhile he settled his plan of life; built himself a house, the massive style of which showed his love for the plain and substantial dwellings of his fathers, and planted a garden, the fruit of which he was at that time in too delicate health to hope to gather. He, however, outlived most of the trees in it. In these employments, and the acquisition of knowledge of the country, several years slipped away, during which he began to lose sight of the termination of his work; indeed, this daily became a source of increased pain and mortification to him, from an increasing perception of the pecuniary loss it had caused him, and from the great indifference to it which then prevailed in Germany.

At this time, too, he sustained a loss which rendered him, as father of a family, more thoughtful as to the sacrifice of a part of his remaining property for so unthankful an undertaking. A passion for speculation seizes on reflect-

ing and intelligent, but inexperienced, men, as well as on the reckless and inconsiderate; as epidemical complaints attack the strong as well as the weak. During the American war the rage for shares in a joint-stock undertaking prevailed in Copenhagen, and was fostered and heightened by delusive appearances. Niebuhr was one of those who suffered themselves to be tempted to buy Asiatic shares, and wait for a higher and higher premium, till at length they reached a price for which there was no foundation; this ended in their sudden fall, and in the loss of the holders.

Many things now conspired to trouble his tranquillity. He himself, as a native marshman, enjoyed very good health in the air of Ditmarschen; but his wife, like all strangers, had to struggle against continual attacks of fever, and her delicate constitution was thoroughly shaken. Niebuhr had employed himself for many years, though of late with considerable interruptions, in arranging and preparing his works. He now entirely laid them aside. With the same view he had read a great deal; he was now in a place in which no book ever met his eye, which he did not himself procure. The void which this occasioned was extremely oppressive to him and disheartened and indisposed him for his labour: the more so, as the dead stagnation of a place in which no day was ever marked by a new occurrence, was contrary to his nature, to that impulse which had driven him out into the wide world, and to the very varied and eventful life to which he had been accustomed. The void indeed which he felt was one which no books could fill; and, as he did not clearly define it to himself, it hung upon his spirits as a silent discontent. The direction of his mind was exclusively towards the historical knowledge of things which form a part of the existing and visible earth. Even the history of the past ages of the human race was for him a merely subordinate study. From the same peculiar character of his mind, even astronomy, his own proper pursuit, had no charms for him, except as serving to illustrate geography. When he built his house, he had fitted up a room as an observatory, and made observations there and in other parts of Holstein for the sake of ascertaining the situations of places: latterly, however, he discontinued this more and more, and the instruments he had used on his travels were preserved only as relics.

It was a most fortunate and beneficial thing for him that, a few years after he settled at Meldorf, Boie was sent thither as *Landvogt*, or governor of the province. The editor of the "Deutsches Museum" had, of course, very extensive literary connexions, and the intercourse between men of letters was then carried on with a vivacity and interest now wholly unknown. On every account, therefore, he was capable of furnishing various interesting matter about which Niebuhr's mind busied itself. An intimate and daily intercourse, which formed part of the regular routine of their lives, accordingly arose between these two men, and, when Boie married, between the two families.

Through Boie's means Niebuhr also became acquainted with men who would otherwise never have visited this remote and obscure corner. In this manner he obtained the acquaintance and the friendship of the celebrated poet and scholar, Voss.

Another and not less considerable advantage which arose out of Boie's residence at Meldorf was, that he possessed a very fine library, which, as editor of the "Museum," he was continually increasing. The greater part of the books were, it is true, foreign to Niebuhr's tastes and pursuits, but there were many which interested and occupied him.

One consequence of this connexion was, that he was stimulated to write many papers, which circumstances called forth, for the "Museum;" and to give treatises to that periodical, which had been intended to form part of his third volume, and were laid on the shelf. This was, in more than one way, disadvantageous to him. It tended to extinguish all purpose of publishing the deficient volume; it dissolved the connexion in the matter, and destroyed its integrity; and was so much given away out of the newest and most important parts. He seldom wrote for the press without constraint, or without dread of committing errors in style. This anxiety was greatly increased by Boie's fastidious criticism. Niebuhr gave him his manuscript to read through, as he had been in the habit of doing to a friend in Copenhagen. He was not, however, content with erasing a few obvious errors, but corrected it throughout with such rhetorical nicety, that Niebuhr was now more than ever convinced of his entire inability to write. In this he was

quite wrong; for the style of those of his essays which had not been touched by any other hand, not only characteristically expresses his peculiar modes of thinking, but is remarkable for the simple beauty it derives from the Low German idioms, which sometimes appear faintly, sometimes in undisguised and primitive plainness. To Northern Germans they have a peculiar charm, and none but a taste, enfeebled and depraved by fastidious refinement, could ever take offence at them.

Meanwhile his children grew to an age to require instruction. This he gave them himself. "He instructed both of us," (says his son,) "in geography, and related to us many passages of history. He taught me English and French—better, at any rate, than they would have been taught by any body else in such a place; and something of mathematics, in which he would have proceeded much farther, had not want of zeal and desire in me unfortunately destroyed all his pleasure in the occupation. One thing indeed was characteristic of his whole system of teaching:—as he had no idea how any body could have knowledge of any kind placed before him, and not seize it with the greatest delight and avidity, and hold to it with the steadiest perseverance, he became disinclined to teach whenever we appeared inattentive or reluctant to learn. As the first instructions I received in Latin, before I had the good fortune to become a scholar of the learned and excellent Jäger, were very defective, he helped me, and read with me Cæsar's Commentaries. Here, again, the peculiar bent of his mind shewed itself;—he always called my attention much more strongly to the geography than the history. The map of ancient Gaul by D'Anville, for whom he had the greatest reverence, always lay before us. I was obliged to look out every place as it occurred, and to tell its exact situation. His instructions had no pretension to be grammatical;—his knowledge of the language, so far as it went, was gained entirely by reading, and by looking at it as a whole. He was of opinion, that a man did not deserve to learn what he had not principally worked out for himself; and that a teacher should be only a helper to assist the pupil out of otherwise inexplicable difficulties. From these causes his attempts to teach me Arabic, when he had already lost that facility in speaking it without which it is impossible to dis-

pense with grammatical instruction, to his disappointment and my shame, did not succeed. When I afterwards taught it myself, and sent him translations from it, he was greatly delighted.

"I have the most lively recollection of many descriptions of the structure of the universe and accounts of eastern countries, which he used to tell me, instead of fairy tales, when he took me on his knee before I went to bed. The history of Mohammed; of the first caliphs, particularly Omar and Ali, for whom he had the deepest veneration—of the conquests and spread of Islamism—of the virtues of the heroes of the new faith, and of the Turkish converts, were imprinted on my childish imagination in the liveliest colours. Historical works on these same subjects were nearly the first books that fell into my hands.

"I recollect too, that on the Christmas-eve of my tenth year, by way of making the day one of peculiar solemnity and rejoicing to me, he went to a beautiful chest containing his manuscripts, which was regarded by us children, and indeed by the whole household, as a sort of ark of the covenant;—took out the papers relating to Africa, and read to me from them. He had taught me to draw maps, and with his encouragement and assistance I soon produced maps of Habbesh and Sudan.

"I could not make him a more welcome birthday present than a sketch of the geography of eastern countries, or translations from voyages and travels, executed as might be expected from a child. He had originally no stronger desire than that I might be his successor as a traveller in the East. But the influence of a very tender and anxious mother upon, my physical training and constitution thwarted his plan almost as soon as it was formed. In consequence of her opposition, my father afterwards gave up all thoughts of it.

"The distinguished kindness he had experienced from the English, and the services which he had been able to render to the East India Company by throwing light on the navigation of the higher part of the Red Sea, led him to entertain the idea of sending me, as soon as I was old enough, to India. With this scheme, which, plausible as it was, he was afterwards as glad to see frustrated as I was myself, many things in the education he gave me were intimately connected. He taught me, by prefer-

ence, out of English books, and put English works of all sorts into my hands; at a very early age he gave me a regular supply of English newspapers;—circumstances which I record here, not on account of the powerful influence they have had on my maturer life, but as indications of his character.

"He entered with the greatest indulgence and interest into the half precocious, half infantine thoughts of the boy; built castles in the air with him; conversed with him upon all the topics of the day, and communicated to him his ideas and views on all subjects that came under discourse. Thus, when we spoke of fortification, he brought out books and plans, and made me draw and measure polygons.

"In the winter of 1788, Herder sent him his *Persepolis*, the contents of which were extremely interesting to him. This gave him the greater pleasure, as it was the first proof he had received for many years that he was not forgotten by his countrymen—a pleasure mingled with surprise. From that time marks of the estimation in which he was held in Germany, as well as abroad, were continually becoming more frequent."

The war with Turkey, which broke out at this time, occupied his mind intensely, and excited him to write several papers. The warmer was his attachment to the Arabs, and the more the peculiarity of his character led him to regard the Arabs of Medina, Bagdad, and Cordova, under the kaliphs, as the people after his own heart, the more intensely did he hate the stately, unbending Turks—the tyrants and oppressors of his beloved Arabs—and he cordially wished that they might be driven out of that Happy Land, which under their government is becoming a desert.

He could not, however, help grudging this conquest to the French; and, during the expedition to Egypt, his lively acquaintance with what Egypt had been, was, or might become, rendered it impossible to mislead him; it was his persuasion that, from the French, no improvement, no relief could or would come. For it must be acknowledged, that towards the French he had a national antipathy, although he gratefully remembered that in many places in the East they had received him with the most sincere and courteous hospitality; and although he entertained the highest possible respect for their mathematicians and orientalists. At a later period,

when the revolution broke out, he beheld it wholly without faith or confidence in any good result, and even with a decided aversion, excited by that national vanity and that want of veracity which were but too obvious and too disgusting to a mind so simple and upright as his. Not that he had any attachment to courts, aristocracies, or priesthoods. He did not philosophize on the subject, but saw in the French nation our hereditary enemies. He rejoiced at the breaking out of the revolutionary war, from the hope that we might regain the several German and Burgundian provinces, which he always, when teaching his children geography, persisted in reckoning as parts of Germany.

The neighbourhood of his native place was one of the reasons which made it particularly agreeable to him to live in Ditmarschen. Of his relations, his half brother, Bartold Niebuhr, and his nephew, H. W. Schmeelke, were the nearest and dearest to him. The former, many years younger than himself, an opulent farmer, died unmarried long before him. He was a man of extraordinary capacity, and although he had gone but occasionally to school, and (as everything was easy to him) applied but very little, he had acquired enough of the Latin language to understand the poets. "Uncle, what are you reading there?" said his nephew to him one day, seeing him with the Georgics in his hand. "I have hived some bees," answered he, in the dialect of his country, "and I want to see what Virgil writes about them."

When he saw Niebuhr in his uniform as officer of engineers, he went up to him, looked earnestly at him, and said, smiling, "Brother, you look very well in that dress, but for all that you are a servant—I am a free man." Schmeelke, for some time Bürgermeister (*i. e.* chief magistrate) at Otterndorf, was always Niebuhr's favourite, and before his travels into Arabia he had bequeathed to him the greater part of his property, as his brother did not want it. The uncle and nephew frequently exchanged visits, and Niebuhr was never so happy as in Hadeln. He had no relation, however distant, no connexion of the friends of his early youth, whose circumstances he did not know in their most minute details and treasure up in his memory.

"The appearance of the long-expected travels of Bruce," says Mr. Niebuhr, "formed an epoch in our uniform life. My father had never been one of those

who carried scepticism so far as to question whether Bruce had ever been in Abyssinia at all. He read his work without prejudice, and the conclusion he arrived at was the same which is, since the second Edinburgh edition, and the publication of Salt's two journeys, the universal and ultimate one. In a paper which he sent to the new 'Deutsches Museum,' he showed that Bruce had exactly copied the pretended determination of the elevation of the Pole on the Arabian Gulf from himself;—that the conversation with Ali Bey was a palpable fabrication and romance;—that the pretended journey over the Red Sea, in the country of Bab el Mandeb, as well as that on the coast south from Kossir, were also mere fiction. On the other hand, he declared that, mixed up with these gross falsehoods, there were parts of the travels which bore an impress of perfect truth and might be confidently believed. About the same time, he was incited, half in indignation, half in wantonness, to give his opinion on a fantastic dream concerning the origin of the Pyramids and of Persepolis put forth by Witt, who maintained that they had been wholly misunderstood, and were works of nature.

At the beginning of the year 1790, he had the great pleasure of receiving a letter from his old friend Dr. Russel, begging of him his ground plan of the city of Aleppo for the new edition he was about to publish of his description of that city. It is hardly necessary to say that Niebuhr did not refuse it. Dr. Russel greatly improved upon it by the addition of the most remarkable buildings, by more correct drawing of the principal streets, and omission of the remainder. Niebuhr's plans, with the exception of Kahira, which is as perfect as that of any city in Europe, are, as he himself has observed, to be considered complete only as far as the circumference, the gates, and the principal buildings are concerned.

Out of this renewed correspondence with Dr. Russel, arose one with Major Rennell, who wished to avail himself of Niebuhr's unpublished map of his route through Syria and Natolia, with a view to a general map of Asia he had it in contemplation to publish. Niebuhr was too generous and too free from all petty jealousy to hesitate a moment in complying with this request. About the same time, Marsden showed his respect for him by sending him his history of Sumatra.

After the correspondence with Rennell had lasted some time, Niebuhr sent him a few of his lunar calculations, the verification of which he had so extraordinarily at heart, and intreated him to induce Maskelyne to undertake this task: this, however, was not attended with any success.

"I must here," adds his son, "depart from chronological order to speak of his correspondence with two excellent men of letters, which, however, if I mistake not, took place some years later. Silvestre de Sacy, while deciphering the Pehlwi inscriptions at Nakschi Rustam, had discovered the incomparable accuracy of my father's drawings; and he, who always entertained the highest reverence for the author of that masterly philological work, felt grateful to De Sacy for calling into life labours which were dead, so long as the key to them was wanting. A very agreeable correspondence soon arose between two men of science, bound to each other by such ties. Silvestre de Sacy was at that time employed upon the compiled translation of the *Bark el Jemen*, *i. e.* the *History of the Conquest of Jemen* by the Turks. In the prosecution of this work he had used my father's geography in his description of Arabia and his map of the empire of the Imaums, and had found the astonishing result that every place mentioned in the history, excepting only two villages in Tehama, were laid down with perfect accuracy. So far as the map was determined by his actual progress through the country, this is less surprising; the remarkable, and the far greater part, is that which rests on the connexion between such data concerning distance and direction as he could collect. Here nothing but the most acute judgment and accurate induction could have enabled him to decide on the internal evidence of varying testimonies, and to give to each its due value.

"Out of this correspondence afterwards arose another, which was also extremely valuable to him—that with the learned, industrious and clear-sighted geographer, Barbier du Bocage. He applied to my father for materials for the construction of his map of Natolia, and received both astronomical determination of places, and itineraries which my father had written down from the oral testimony of the camel-drivers of the caravans."

In November, 1792, Niebuhr was attacked by a pleurisy of which he very nearly died, and recovered very slowly.

Fulness of blood, occasioned by the quiet and inactive life he had led for so many years, was the cause of very severe illness and of long derangement of health. The following year he spit blood. He was not absolutely ill, but his spirits were extremely languid and depressed: he complained of oppression on the chest, and indisposition to move. He had another complaint which made him very anxious. For several years a sort of wart or wen had been growing under his right eye, and every means resorted to had only inflamed and increased it. The surgeon whom he consulted thought it alarming; the more so because he dared not venture on an extirpation. After enduring pain and anxiety for some years, it was at length cured, and at the close of his sixty-sixth year he was happily restored to perfect health. An accident led him to purchase some moorland, a league from his house, and to undertake the cultivation of it. It revived all his taste for the employment of his early life; he laid various schemes of agricultural improvement, pursued them with youthful ardour, and promised himself the most favourable results: he planted trees, cut drains, and bought land till he had altogether a very considerable estate. The consequences were not answerable to his hopes; a great deal of money was lost—if, indeed, that can be called lost which not only left the land improved and productive, but lengthened and enlivened his remaining days.

He took much and strong exercise, went to his farm on foot or on horseback, returning with unwearied activity to every spot where anything remained to do. As the fields in that part of the country are divided by very broad ditches, he made use of a leaping pole, to which he had been accustomed in his youth. He had grown so young and so robust, that he jumped over a ditch ten feet wide in his seventieth year. His farm made many things interesting to him which had formerly been indifferent, and his peculiar talent for observation and investigation found animating employment and food. He studied, in the greatest detail, the sort of agriculture suited to the marsh and heath lands of his own district and the neighbouring ones on the same side of the river, and all the long-forgotten knowledge of the subject which he had acquired in his youth from personal observation revived in his mind. "I still hope," says his son, "to ob-

tain possession of a series of letters from him, written in the year 1801, in which most careful inquiries, he replied to a list of queries I addressed to him on the different kinds of marsh-land, the under strata, the proportion between the seed and the produce of various sorts of grain, and the fundamental rules of the old valuation of the land, with a precision and copiousness to be expected only in replies to the interrogatories of a committee of the British House of Commons.

"Still later, in 1809, in the 77th year of his age, he surprised me by a collection of notes in answer to the inquiry whether, before the existence of the marshes along the whole coast of Friesland, from Jutland to the Vlie, there had been moors extending behind the *Dunes* or *Denes*, which are now washed away; as also, in answer to the question, whether the mean height of the tide were always the same, and had not, for a long series of years, been continually gaining, or were subject to long periods of gaining and losing. These queries were contained in a letter addressed to him from Holland. The facts which he brought together in reply, gave evidence of all his peculiar acuteness and accuracy of observation.

"These occupations diverted him from dwelling on a misfortune which had been a source of great vexation to him for some years before he devoted himself to them. The copperplates belonging to the works which had appeared, as well as those executed for the yet unpublished volume, were deposited at Copenhagen, in the house of a friend, which was reduced to ashes in the great fire of June, 1795. All these plates were destroyed; and with them perished all desire, all heart, for the completion of the unfinished volume.

"An opportunity did, indeed, shortly present itself for the publication of its contents, though not in Germany. In England his reputation was so high, that almost every body who heard my name accosted me with cordial inquiries for my father, and an acquaintance with his works was so widely diffused through the medium of Heron's extracts, that I met with them in the houses of several country people, and a friend of mine found them even in the island of Mull. Very eager inquiries were now addressed to him from that country, whether he would not publish the deficient volume there, and in the English language. This

he declined, partly because he anticipated more difficulties from the sending over a copy of the manuscript for me to translate than really existed; but partly, also, because with all his attachment to England, he thought it unbecoming and wrong to suffer the conclusion of a work which might be considered as the property of the Danish government, to whom it owed its very existence, to appear in any other country than Denmark, or in any other language than German. At subsequent periods the same proposal was renewed to me, first in 1802; and when I saw that all hope of his giving a German edition was at an end, and at the same time that he was fully satisfied of the correctness of his geographical and astronomical observations, I earnestly entreated him to send me the MS. and to permit it to be translated. My intention was to append to it a translation of the history of Zebid, which he sent to Copenhagen, together with other MSS., and which is still to be found in the royal library there. It contains a circumstantial history of Yemen, from the time of its separation from the caliphate through the whole of the middle ages. I also intended to extract all that was not botanical from Forskaal's cruelly neglected works, and to annex these, together with a general map of Arabia. My father persisted in his refusal, of which he, however, afterwards repented. During the campaign in East Prussia, Lord Hutchinson, one of his most zealous admirers, made the same proposal to him through me, and offered to negotiate the affair on the most advantageous terms, according to the relations generally subsisting in England between author and publisher. But at that time I had no longer the power of making any historical additions to the description of Arabia; the sending the manuscripts to me, even after the peace of Tilsit, was very doubtful; and the conveying the translation to England, during the tyrannical prohibition of all intercourse, attended with great danger."

In Zach's monthly correspondence Niebuhr found some remarks and criticisms on Mayer's system of longitudinal observations, which he little expected, having scarcely any means of observing the developement and growth of science in the remote corner of the world where he lived. Agreeably surprised, he immediately communicated to M. von

Zach the existence of his own observations, the earliest which had been attempted upon the system in question, and offered to send them to him. The readers of Zach's journal know how this offer was received by M. von Zach and M. von Bürg, and what judgment they pronounced on his determination of places, after they had been calculated according to Bürg's perfected tables: this treasure of the geography of Asia is now on record in the above-mentioned correspondence.

The tranquillizing assurance that he had not laboured in vain, and that he was at length understood and appreciated, was a balm and a cordial to his old age. In 1802 he was further gratified by the distinction conferred upon him in being appointed foreign member of the Institute of France; for although his native dislike to that country had been increased by the tyrannical domination which now pressed so heavily on the continent, he nevertheless acknowledged that, in the sciences to which he had devoted himself, no society could then, for dignity and splendour, be compared with the National Institute.

Another agreeable incident which marked this period was, that an addition to his salary, proportioned to the general rise in prices since his residence in Holstein, was made by the voluntary favour of the present King of Denmark, then Crown Prince. From the time this prince took the reins of government, Niebuhr received marks of distinguished favour from him, without any request or application on his part. Although, perhaps, he owed this principally to his fame as a traveller and a man of science, he had deserved it no less as a public functionary. The business of his office, which consisted chiefly in the collection of taxes and in public accounts, was not indeed very agreeable to him, nor suited to a man of his turn; he however executed it with unwearied diligence and fidelity. The mildness and consideration with which he performed his duty, often at the risk or with the certainty of personal loss, at a time when the growing burthen of the taxes was so great as to convert the industrious peasant into a dilatory payer, won him the gratitude of the people; while the exactness and extraordinary intelligence he displayed in the discharge of his duties, ensured him the respect and applause of the government. Among the concerns committed

to his care was one which was peculiarly attractive to him, and which opened a wide field for improvement. This was the superintendence of the out-dikes. He reflected much on the means of promoting and accelerating their increase, especially by draining the *priele* and *sprante* (as the natives call the small channels which, at ebb-tide, are left flowing through the bed of the river), and was unremittingly engaged in drawing up notices and reports with the hope of obtaining approbation and money for the prosecution of the work, the cost of which could be but slowly replaced. In his frequent visits to these lands he was led particularly to observe the very remarkable phenomena exhibited by the successive layers, so to speak, of vegetation, growing one out of another on the gradually increasing additions to the soil; from the plants of the *salsolæ* tribe which grow in the mud deposited by the ebb-tide, to the fine grasses of the mature crust or soil. These had been hitherto unobserved, and if they are now known to naturalists, it is probably through his repeated descriptions of appearances which had been noticed only by the shepherds and husbandmen of these extensive pastures.

From the earliest time of his appointment to his office, up to the year 1802, the duties he had to discharge were nearly unaltered; from that time they increased in proportion as the necessitous state of the public finances gave occasion to an increase of the public burdens. The first of the many fresh taxes which succeeded were the land and usufruct taxes, in the imposition of which the old registers of the country were entirely disregarded, and a new valuation became necessary. In the commission appointed for the district, Niebuhr, from his official knowledge and connections, and from his personal zeal, was the most active, indeed almost the only working member. In order to appreciate what a task this was, we must first conceive a district containing 24,000 inhabitants, all agricultural; the whole land divided into small ownerships, which were smaller in proportion as the marsh was more fertile. Niebuhr revised the valuation himself, and deliberated and decided on the appeals. In his 71st and 72nd years he worked through a great part of the night, nor did his indefatigable zeal relax even when his sight began to fail. The

reader will remember how his eyes suffered from drawing at Persepolis. They afterwards sustained a sudden and still more fatal shock from his negligence in not using coloured glass during a solar observation. Egypt and the deserts had also left permanent effects upon them. The consequences of this night-work were irremediable and fatal. In a short time he could no longer see to read, and for writing he required an extraordinary quantity of light, and even then the lines were often run into one another. This blindness, the progress of which he clearly perceived was not to be arrested, made him very anxious, the more, as it threatened to compel him to resign his employment. This he was happily enabled to avoid.

His wife, after many years suffering from asthma, which ended in water in the chest, died in December, 1807. His daughter and her widowed sister, who had lived with her for twelve years, freed from the constant care her illness had demanded, could now devote themselves wholly to rendering him the assistance of which he stood so much in need. His daughter did not confine herself to administering to his bodily wants and infirmities, she did that part of his business which he was no longer able to do. This, however, was not sufficient, as his sight became worse and worse, and what he wrote with the utmost care was nearly illegible.

His family and friends regarded it as one of the best rewards of his honourable and useful life, that, at the close of it, he found a friend who undertook the discharge of the duties of his office with all the devotion and attachment of a son. Gloyer, who became his successor, took a deep and lively interest in statistics, to which we owe his valuable and instructive fragments on India, and on the state of taxation in that country. He was introduced to Niebuhr, who found his society so delightful, that as he was not engaged in any employment, he invited him into his house as an assistant. Gloyer complied with his wishes, and the government acceded to Niebuhr's request that his friend should be officially recognised in that capacity. Gloyer shared the labours of the office; and the tranquillity with which Niebuhr could confide the execution and credit of his post to such a friend and such a daughter were the best rewards for the fidelity with which he had discharged its duties. He felt it to be so. He did

not, however, withdraw his mind from his business; he had kept the thread of it unbroken, though he had so long been blind; everything was read aloud to him and discussed with him. Gloyer's conversation and daily intercourse revived to his mind's eye many a faded or vanished picture of the east, and the books which this invaluable friend read aloud to him, and the circumstances he related, put him in possession of the works and statements of more recent travellers. This was without comparison the highest enjoyment of which he was susceptible. "When I related to him," says his son, "the descriptions of any traveller newly returned from the east, or gave him in my letters any accounts of travels not known on the continent, his whole being seemed reanimated, and he dictated answers which showed that his mental vision was vivid and powerful as ever. It was still more remarkable that these new facts imprinted themselves on his mind with all the depth and sharpness with which objects are stamped on a youthful memory, and so remained up to the time of his death. He combined them with what he had himself observed and experienced.

"I was deprived of the happiness of contributing to his comfort or enjoyment by any other means than such communications, which the total prohibition of intercourse between England and the continent daily rendered more rare and difficult of access."

"Among the circumstances which contributed to gladden his old age was the constant intercourse he enjoyed with a family brought up in Meldorf, and nearly related to him, the members of which were like children and grandchildren to him. His friendship with the Treasurer of the district (*Landespfennigmeister*), Piehl, who, in the management of the concerns of the province, exhibited the rarest combination of sagacity and aptitude, and whose whole character was the perfect model of the citizen of a republic, became more close and intimate in proportion as both advanced in age. A visit from this excellent friend when he returned from one of his journeys into the country, or a visit to his house, where every thing bespoke his active mind and beneficent disposition, were festivals. Piehl was indeed a most remarkable man; a history of his life and of his administration of the finances of the province, into the frightful chaos of

which he introduced order ; actively and prudently, so far as was possible to human efforts, taking advantage of good times, and correcting the remaining influence of bad ones ;—lightening the terrible pressure on the people by the sacrifice of his own property, and the offer of his own credit ;—a history of this noble example of public service, for the display of which a free agricultural community managing its own affairs affords the sole field, would be a well-deserved monument to his honour ; an edifying and instructive document to all placed in the same circumstances, and to all who entertain sincere and conscientious doubts as to the blessings of a free and democratic government.

“These various mental pleasures and consolations became so much the more necessary from his increasing bodily infirmities. He was of a phlegmatic, robust, and plethoric constitution, to which, from the habit of many years, bleeding had become indispensable. Unfortunately, he conceived the idea that his great age rendered it necessary to discontinue this ; nor could any warnings or remonstrances induce him to resort to it again, till at length attacks of dizziness, sudden deafness and spitting of blood showed the danger to be imminent. These symptoms, which began about the time of his wife’s death, continued to return with more or less violence every spring and autumn ; till, in October, 1813, he was attacked by a frightful bleeding at the nose which, however, his robust temperament enabled him to rise above.

“Sated, though not disgusted, with life, he frequently in the course of this year expressed his willingness to rejoin his wife, whenever God’s good time were ; yet he wished to live to see the destinies of the world decided, and once again to embrace his absent children. His wishes were granted, though he was first compelled to behold an invading army in Holstein. The distress and terror which such an event always brings in its train, did not overcome his joy at the deliverance of Europe and the glorious triumphs of Germany and her allies.

“The camp in Ditmarschen, on the side of a road, whither only light troops were sent, brought upon the country all the terror of an ungoverned soldiery. Meldorf was also in a state of great alarm from a troop of Mecklenburghers, who were used by a rapacious commissary as means of extorting contributions by

threats of fire and pillage. To protect Niebuhr against these atrocities, Colonel Von Clausewitz, then of the German Legion, and now chief of the staff of General Count Gneisenau, sent him a guard.

“One of the symptoms of increasing infirmity and a consequence of the sort of attacks already mentioned, was a weakness in one leg, which occasioned him many falls. It was, however, unattended with any important consequences till an unlucky fall, in March, 1814, which injured his right thigh and caused a permanent lameness in it. From that time he was never able to set his foot to the ground ; nor could he move without assistance or without pain ; he could only be removed from his bed in the afternoon on a wheeled chair. He clung long to the hope of recovery ; but even the gradual decline and extinction of this hope could not abate his truly saint-like gentleness and resignation. Gratitude to Gloyer, who helped to carry and move him about, and whose solicitude to occupy and amuse him was unwearied and inventive ;—to his daughter, who devoted herself entirely to him ;—to his sister-in-law, and to all who showed him any kindness, rendered him happy even amid pain and infirmity.

“It was thus we found him,” says his son, “in the autumn of 1814, and his appearance was calculated to leave a delightful picture in the mind. All his features, as well as his extinguished eyes, wore the expression of the extreme and exhausted old age of an extraordinarily robust nature ;—it was impossible to behold a more venerable sight. So venerable was it, that a Cossack who entered, an unbidden guest, into the chamber where he sat with his silver locks uncovered, was so struck with it, that he manifested the greatest reverence for him, and a sincere and cordial interest for the whole household. His sweetness of temper was unalterable, though he often expressed his desire to go to his final home, since all which he had desired to live for had been accomplished.

“A numerous, and as yet unbroken, family circle was assembled around him, and every day in which he was not assailed by some peculiar indisposition, he conversed with cheerfulness and cordial enjoyment on the happy change which had taken place in public affairs. We found it very delightful to engage

him in continued recitals of his travels, which he now related with peculiar fullness and vivacity. In this manner he once spoke much, and in great detail, of Persepolis, and described the walls on which he had found the inscriptions and bas-reliefs, exactly as one would describe those of a building visited within a few days, and familiarly known. We could not conceal our astonishment. He replied, that as he lay in bed, all visible objects shut out, the pictures of what he had beheld in the East continually floated before his mind's eye, so that it was no wonder he could speak of them as if he had seen them yesterday. With like vividness was the deep intense sky of Asia, with its brilliant and twinkling host of stars which he had so often gazed at by night, or its lofty vault of blue by day, reflected, in the hours of stillness and darkness, on his inmost soul;—and this was his greatest enjoyment. In the beginning of winter he had another bleeding at the nose, so violent, that the by-standers expected his death—but this also he withstood.

“About the end of April, 1815, the long existing obstruction in his chest grew much worse; but his friendly physician alleviated the symptoms which to those around him appeared rather painful than dangerous. Towards evening, on the 26th of April, 1815, he was read to as usual, and asked questions which showed perfect apprehension and intelligence: he then sunk into a slumber, and departed without a struggle.”

A concourse of people from all parts of the country attended his body to the grave. It was the opinion of all, that no individual had ever been so universally regretted. The funeral was solemnized with all the honours which respect and affection can pay. He had attained the age of eighty-two.

He was counsellor of state of Denmark; knight of the Dannebrog, of the fourth class; secretary (landschreiber) to the district of South Ditmarschen; member of the society of sciences of Göttingen; of the Swedish and Norwegian societies; and of the society for the investigation of natural science; and foreign member of the National Institute of France.

In stature he was rather under the middle size, of a very robust and sturdy make; up to his fortieth year, thin, but later in life, thick set and fat. There is only one engraving of him extant,—a bad copy of a good picture painted in

his youth. It is prefixed to a volume of the *Allgemeinen Deutschen Bibliothek*. His person and carriage, the sturdy-looking head, the powerful neck, and his whole gesture, gave him a completely oriental air. When seen from behind in an eastern dress, especially when walking and in conversation, gesticulating with his hands, no man could have distinguished him among a party of Arabs. I have often been struck with this when I have looked after Moors of the Barbary states in the streets.

He was extremely frugal: economy had become a habit with him in early life. As a peasant lad he drank nothing but water and milk; and at a later period he deviated from this simple diet only in compliance with the customs of others, with which he every where made it a rule to conform, and he then drank an extremely small quantity of wine. He had no favourite dishes but the peasant fare of his native land.

He was, and remained through his whole life, a true and genuine peasant; with all the virtues, and with the little failings, of the class from which he sprang. He was, unquestionably, somewhat obstinate; and it was very difficult to reason him out of an idea he had once strongly taken up: he continually reverted to it. Equally strong and inveterate were his prejudices for and against men. This pertinacity, however, it was, which gave him strength during the greater part of his life to follow the path he had chosen, through every difficulty and danger. His moral character was spotless, and his manners extremely pure and severe. In every circumstance and relation of life, he was unassuming and disinterested.

The bent of his mind was entirely for the observation and investigation of sensible objects: abstraction and speculation were foreign to his genius, which could lay hold of nothing but the concrete. With regard to books, he was most rigorous as to the truth of the statements they contained; that form of conveying them pleased him the best which was the simplest. Poetry, except Homer, in Voss's translation, Goethe's Hermann and Dorothea, and songs for music, was quite uncongenial with his tastes. Fielding and Smollett's novels he loved; he had read no others. Architecture interested him; but to the arts of painting and sculpture he was indifferent: music he loved.

He lived in observation and percep-

tion. A friend of his own age, who took a short journey with him when both were advanced in life, silently remarked, and afterwards related with great delight, how he had found something to observe and to investigate in every field and every village they passed through. In his sixty-eighth year he visited this same friend in his then residence, where he had never before been. The morning after his arrival he let himself out at the house-door at four o'clock in the morning, and before breakfast had wandered through and around the whole town, and had so perfect and exact a picture of it in his mind, that every house and every building he inquired about was instantly recognised and named from his description.

This exclusive turn of his mind rendered him indifferent to subjects of mere speculation. He advanced towards the unknown regions with the full tranquillity of a conscience "void of all offence" and of all blemish. He relied for the protection of himself and those dear to him on that overruling Providence, of which, in the course of his own life, he had had striking experience. "It is extraordinary," says his son, "that this man, so remarkably devoid of imagination, so exempt from illusion, waked us on the night in which his brother died, though he was at such a distance that he knew not even of his illness, and told us that his brother was dead. What had appeared to him, waking or dreaming, he never told us."

As he had conceived a very high and

extensive idea of the duties which devolved upon him on his travels, he never lost the remembrance of the designs he had relinquished, in compliance with the wishes of others, or in consequence of obstacles. He reproached himself for these omissions with a severity which we never could convince him was exaggerated and unjust. In his old age, these self-tormentings assumed a character which gave us great pain. Acknowledgments of his merits by competent and experienced judges, such as Reiske, Silvestre de Sacy, Rennell, &c. gave him the sincerest pleasure: to external honours or homage addressed to his vanity, he was quite inaccessible. Nobility, which was offered him by the minister Guldberg, he refused. The title which he was compelled by custom to assume, as officer of engineers in the Danish army, led a relation of his to ask him, "If he had caused himself to be ennobled?"—"No," replied he, "I would not offer my family such an affront."

He founded, and bequeathed to his family, a more enduring nobility. To this time no traveller returns from the east without wonder and gratitude towards such an instructor and guide, the first and best of all describers of the east. Not one, of all who have hitherto followed, has equalled him; and it is yet doubtful whether he will ever find a successor, who will complete what he has left unfinished of the description of Arabia, and worthily occupy a place by his side.

ADMIRAL BLAKE.

CHAPTER I.

Birth and Parentage—Academical Education and Pursuits—Acquires great Influence with the Puritan Party—Chosen Member for Bridgewater—Embraces the Cause of the Parliament against Charles I.—Services at Bristol, Lyme, and Taunton.

Few men occupy an important place in the military and naval annals of England, who have more conspicuously exhibited the intellectual and moral qualities which favourably distinguish the character of British seamen than Admiral Blake. Much of the war-like distinction, to attain which this country has made such sacrifices, is attributable to a combination in its inhabitants of active with passive courage; or of daring valour and an ardent spirit of enterprise, with firmness, perseverance, and intrepid endurance. When, to these qualifications can be added, patriotism, disinterestedness, and a correct notion of the due boundaries of obedience and command, little more is wanted to complete the outline of an accomplished English officer. All these requisites were displayed, in an eminent degree, by the individual, a brief sketch of whose life will be attempted in the following pages, who has always ranked high in the estimation of his countrymen, notwithstanding the party bias, so powerfully excited by the political occurrences of the period in which his lot was cast.

Robert Blake was born in August, 1599, at Bridgewater, in the county of Somerset. His father, Humphrey Blake, a respectable merchant of that town, was a branch of the Blakes of Plansfield, in the parish of Spaxton,* in its vicinity; a family which bore the rank of respectable country gentlemen. Having amassed a good fortune by the Spanish trade, he bought an estate in the neighbourhood of Bridgewater, where he settled, and had a numerous family. At a proper age, Robert, who

was the eldest, attended the Free Grammar School of his native place; whence, at the death of his father, being then of the age of sixteen, he removed himself to Alban's Hall, in the university of Oxford. Here he was noticed for early rising and studious application; which he diversified by the sports of fowling and fishing. As he became too noted a public character, in the sequel, for any sort of traditional scandal concerning him to escape publicity, it has been asserted that he occasionally amused himself with stealing swans;* doubtless in the estimation of those times, nothing more than a species of aquatic poaching. From Alban's Hall, he, after a while, removed himself to Wadham College, where he took the degree of Bachelor of Arts; and in 1619, being then about twenty-one years of age, he became candidate for a Fellowship of Merton College. In this object of his ambition he however failed, owing to the opposition of Sir Henry Savile, then Warden, on the extraordinary ground of not being tall enough. Although it was one of the known foibles of that eminent scholar, to pay a great regard to personal comeliness, there is reason to believe that the religious opinions of the candidate formed the principal cause of his rejection; his family and connexions being, for the most part, inclined to Presbyterianism, or at least opposed to the domineering scheme of church government, which the court and prelacy were then endeavouring to carry into practice. However this might be, his non-attainment of a fellowship probably altered the entire course of his future destiny; for so long a residence at the university, and his wish to obtain that kind of preferment, seem to indicate literary, if not professional views, altogether at variance with his future career. If so, Blake is only one among a multitude of distinguished characters, whom the course of events, rather than premeditation or design, has conducted into that line of exertion, for which their natural endowments have more especially adapted them.

* Lives, English and Foreign, vol. ii. p. 73. Wood's Fasti. Oxon. vol. i. col. 203.

* Wood's Fasti, vol. i. col. 203.

Mr. Blake remained at the university until his twenty-fifth year, during which period, according to Lord Clarendon, he obtained as great a portion of learning, as any gentleman of independent prospects, not expressly intended for a learned profession, needs acquire.* This testimony is sufficient to discountenance an insinuation, that he lost the sought for fellowship by want of sufficient erudition; but it at the same time proves that he was never a distinguished student. All that is known of his literary performances, is a copy of verses on the death of the celebrated antiquary Camden, one of those fruits of imitation rather than of native impulse, or genius, which may sometimes be admired as college exercises, but seldom as any thing more. Such, unfortunately, owing to the very mature age to which he arrived before he became distinguished, is all that it has been found possible to collect concerning the early life of Admiral Blake. This is too common a circumstance in biography, to be the subject of particular regret; but it is still to be lamented, as a study of well authenticated accounts of the youthful predispositions of eminent men, is both profitable and amusing. In the great variety and complexity of human character, it may not be always safe to depend upon like results from similar appearances; but in social and intellectual, as well as in physical knowledge, cool and patient observation will gradually account for much apparent diversity. The utility too, as regards education, is undeniable; an early discernment of the indications of future modes of thinking and acting, and a close attention to the formation of habits, being among the most useful qualifications with which all who have to do with the bringing up of youth, whether as parents or teachers, can be endowed.

On quitting the university, Mr. Blake took up his residence at Bridgewater, where he soon became distinguished for soundness of understanding, gravity of deportment, and plain sincerity of temper; all bespeaking the strength and solidity of character which he afterwards displayed. It is, at the same time, recorded that a humorous bluntness of expression rendered him a very entertaining and agreeable companion, notwithstanding the apparent austerity of his manners;† and that,

taken altogether, he was admirably adapted to acquire influence with the powerful and rising party to which he was attached both by principle and connexion. It has already been observed, that this party was the Nonconformists, or Puritans, which, from the nature of the times, and the infatuated conduct of the reigning family and its advisers, soon became strongly, although far from universally, tinctured with republicanism. To whatever extent it may be conceded that it was natural for the House of Stuart to claim the same extent of prerogative as its predecessors, it must be allowed by all, except the most prejudiced of its partisans, that the arbitrary system which it adopted, was carried most unwisely into practice. Disgusted, in common with a great portion of the nation, at the measures of the court, and still more annoyed by the severe and intolerant proceedings of Laud, then Bishop of Bath and Wells, the diocese in which he lived, Mr. Blake was the more confirmed in the religious and political opinions, which equally agreed with his own natural seriousness, and the prevalent bias of the inhabitants of his native place. Expressing his sentiments freely, and without concealment, he gradually acquired that influence with his party, which his talents and general respectability were so well calculated to command; so that in 1640 he was chosen Member of Parliament for Bridgewater. This parliament was, however, so soon dissolved, that he had no opportunity of distinguishing himself as a politician; and for the next, which was the memorable Long Parliament, he lost his election.

When in 1642, the differences between the King and the Parliament broke out into actual hostilities, Blake, in common with many of the most active and energetic men of the period, immediately embraced the party of the latter, and raised a troop of dragoons, which he personally commanded as captain. He was at this time in his forty-second year, having attained the meridian of life, before he commenced those warlike pursuits in which he so rapidly acquired a distinguished name. This circumstance, while remarkable in itself, tends in some degree to detract from the interest of this narrative as a piece of biography. It is natural to wish for some satisfactory particulars of the first forty years of the life of a man whose conduct has made the remainder of it celebrated;

* History of the Rebellion, vol. iii. p. 601. Bates.
† Bates's Elenchus Motuum, p. 238.

but unhappily, except a few scattered notices by Lord Clarendon, Anthony Wood, and Dr. Bates, very little is recorded concerning Blake before he was called into activity by the civil war. The rapidity with which he then acquired eminence as a warrior, both by sea and land, will give a very different complexion to what will follow, his own history, from the period in question, being identified with that of his country. He forms, indeed, one of the most conspicuous examples which modern times have produced, of a man stepping from private life into command, and becoming almost at once a distinguished leader. In the republics of Greece and Rome it was more common, although probably when duly considered less extraordinary, as the institutions of both the Greeks and Romans, in many respects, made every man a soldier. Such was not the case in England during the age of Blake; although the facility with which many of the energetic spirits of the day passed from civil life into active military command, seems to indicate that the temper and construction of British society were not unfavourable to the transition. Or rather, ought we not, as in a more recent period of revolutionary history, to attribute the almost spontaneous appearance of the ability, to the strength of the excitement: and is it not upon the whole consolatory to reflect, that when the souls of men are moved, and their actions dictated by principles, their energies are better seconded by their understandings?

But to return to the narrative: the first opportunity Mr. Blake acquired of distinguishing himself was in 1643, when he served at Bristol under Colonel Fiennes, who intrusted him with the defence of a small fort on the lines. When the governor agreed to surrender that important city to Prince Rupert, on the 26th July, Blake refused to give up his post, and continued to fire upon the Royalists. At this the prince was highly exasperated, and declared, that when he took the place he would hang him. Some friends, however, interfered, and pleaded his inexperience in the usages of war; and, at the same time, urged Blake to refrain from an entirely useless resistance, to which advice, although with great difficulty, he was finally induced to accede.* The conduct of Blake in this respect, so indicative of the spirit and tenacity of the man, has been consi-

dered to be, on military principles, irregular; but it should be remembered, that one of the charges against Colonel Fiennes, on his trial before a council of war at St. Alban's, for his conduct at the siege of Bristol, was, that he left Captain Blake in the fort, when he marched out of that city, without giving him any notice of the surrender, or any warrant to deliver up his charge, to the great danger of the lives of Captain Blake and his men.*

Blake subsequently served in Somersetshire as Lieutenant-Colonel of the regiment of foot of Colonel Popham, then in garrison at Lyme, of which town the latter officer was parliamentary governor. Here he acted with so much activity and ability, when the place was besieged by Prince Maurice and Lord Goring, that Popham left its defence entirely to his management; and he so effectually exerted himself, that the Royalists, after being baffled in repeated attempts at storming, and losing a great number of men by the vigorous sallies of the besieged, gave up the attempt and departed.†

His next service was of great importance: Popham's regiment having been raised in Somersetshire, throughout which county Blake was exceedingly popular, he was known and much beloved by all the soldiers who served under him. This attachment was not only highly serviceable to him in the field, but procured him the best intelligence of the state of things around, through the medium of the friends and connexions of his men, all over the county. By these means he acquired intelligence which enabled him, in conjunction with Sir Robert Pye, to surprise Taunton, where they found six cannon and a considerable quantity of ammunition. In 1644, the Parliament appointed him governor of this town, one of the most important in the west of England, being then the only garrison in the parliamentary interest in that part of the country.‡ The works erected in defence of Taunton were far from strong, and the garrison by no means numerous; yet by maintaining a strict discipline, and by treating the inhabitants with consideration and humanity, he managed, with very little assistance from supplies, to retain the place, although repeatedly besieged and blocked up by the King's

* Howell's State Trials, 224, 252.

† Lives English and Foreign, vol. iii.

‡ Rushworth's Hist. Collections, vol. v. p. 685.

* Hist. of the Rebellions, vol. iii. p. 602.

forces. He had not, indeed, been long there before the Earl of Essex, commanding for the Parliament, was obliged to capitulate in Cornwall, and to surrender his army to the King, an event which was followed by an unresisted scouring of the western counties by the Royalists. Of these troops 3000 ventured to approach Taunton; on which Blake sent out a party from the town, who defeated them with great slaughter, and took several officers of note prisoners. He also cleared all the roads around his post from the armed interruption of a number of cavalier country gentlemen of the vicinity, who frequently behaved with great ferocity to those passengers that were supposed to be adverse to the royal cause.*

Annoyed by this activity, Lord Goring came into the neighbourhood of Taunton with a body of Royalists, amounting to 10,000 men; and pressed the works so closely, that he made a breach in the line of defence, and took actual possession of a part of the town. Blake however, still contrived to retain the castle and the remainder of the town, although in the greatest distress both for ammunition and provisions. Aware of this fact, the besiegers summoned him to surrender, the message being conveyed to him by Colonel Windham, governor of Bridgewater, for the King, who happened to be at that time with the royal army. The first summons demanded instant surrender, on pain of fire and sword; which being treated with disregard, Windham, who had been on intimate terms with Blake, mildly endeavoured to persuade him to spare an unnecessary effusion of Christian blood. To these repeated demands Blake at length made the following characteristic reply:—

"These are to let you know, that as we neither fear your menaces nor accept your proffers, so we wish you for the time to come to desist from all overtures of the like nature to us, who are resolved, to the last drop of our blood, to maintain the quarrel we have undertaken; and doubt not that the same God who has hitherto protected us, will ere long bless us with an issue answerable to the justice of our cause. However, to him alone, we shall stand or fall."†

Soon after the despatch of this letter,

a body of parliamentary troops broke through the besieging force, and supplied the town with provisions and other necessities. The main army of the Parliament could not however move so rapidly to the relief of Taunton as the situation of the governor and garrison required, owing to the time necessary for the re-officering it under the famous self-denying ordinance.* Before, therefore, effective succour arrived, the besiegers had destroyed the suburbs and half the town, and Blake could with difficulty maintain even the castle. At length Major General Skippon was directed to join Sir Thomas Fairfax, and march to the aid of Blake with 8,000 men, and a train of artillery, and money and provisions were sent after them.

In the mean time, fully acquainted with the great distress of the garrison, the besiegers sent another summons to Blake to surrender, to which he briefly replied, that he would eat his boots first. He then calmly proceeded to barricade the part of the town which he still retained with all sorts of lumber; and made the Royalists pay dearly for every step of ground that they acquired. At last, Lord Goring and Prince Rupert were called away, with part of the besieging force, to the king's relief at Oxford; but the approaching army of Sir Thomas Fairfax and General Skippon being diverted to the same scene of hostilities, a strong detachment only, under the command of the Colonels Weldon and Greaves, could be spared for the relief of Taunton. This force, however, proved sufficient for the service; and on the 11th of May 1645, the Royalists were obliged to raise the siege, after they had lost 1000 men; and sent away twelve waggon loads of wounded. For this spirited defence, the parliament voted a letter of thanks to Colonel Blake, with a donation of 500*l.*, and 2000*l.* to be distributed among the garrison. A general collection was also made to restore the houses destroyed during the siege.

The possession of Taunton by the Parliamentarians, proved so injurious to the royal cause, that another attempt was soon after made to take it, by the united forces of Lord Goring, Sir Richard

* Sir Francis Doddington meeting a divine, exclaimed, "Who art thou for, priest?" "For God and his gospel," he replied; which answer being deemed a declaration for the Parliament, Sir Francis shot him dead upon the spot.—*Lives English and Foreign*.

† *Lives English and Foreign*, vol. ii. p. 81, 82.

* An act passed through the intrigues of Cromwell and the Independents, by which all members of Parliament were to abstain from military command, except Cromwell himself, a scheme to get the army into the hands of his own partizans, and to exclude the Presbyterian and other leaders of reputation from acquiring influence with the soldiery.

Greenville, and Colonel Berkely. They suffered much from the spirited sallies of the besieged, under the command of Colonel Weldon; and when the latter, on one occasion, was nearly surrounded by the enemy, Blake marched out to his relief at the head of two troops of horse, and charged the cavaliers so fiercely, that Weldon was enabled to gain the town, into which Blake and his party followed in good order. On learning the renewed attempt upon Taunton, the city of London voluntarily granted 4000*l.* to raise and equip 1000 horse, to be sent to the assistance of the governor, under the command of Major-General Massey; and the committee of Kent supplied two troops of dragoons, and two companies of infantry, for the same service. The distress of the garrison, during these preparations, was very great; but although Blake could acquire no precise information when succour might be expected, he resolutely held out, and continued to annoy the enemy with great effect, until the junction of the parliamentary forces, under General Massey and Sir Thomas Fairfax, once more obliged Lord Goring to raise the siege.*

It has been necessary to dwell at some length on this obstinate defence of Taunton, for two reasons: in the first place, to show the rapid developement of Blake's talents as a commander; and in the second, because this protracted occupation of a large portion of the king's troops, materially tended to hasten the final defeat of the royal cause. It was the known distress of Blake in Taunton, and a supposition that, if pressed, he must surrender in a few days, that induced the king to divide his forces, and thereby hasten the decisive battle of Naseby, which Fairfax would not have risked, had the royal army remained entire. At the same time, the large body of troops despatched on this service, not only completely failed to accomplish its object, but, in the sequel, was routed and dispersed altogether. It seldom happens that a single, and apparently a mere subordinate military exertion, leads to consequences so important.†

After refreshing and recruiting his garrison, Blake marched with a party of his men, and captured Dunster Castle, held by the Luttrell family for the crown. This event, which was one of the last transactions of the war, took

place in April 1646, when he returned in triumph to Taunton, and to the enjoyment of a considerable interval of repose.

It has already been seen how promptly Colonel Blake espoused the side of the parliament, in a contest rendered equally inevitable by the progress of opinion among the people, and by the too natural blindness of authority to the necessity of yielding, more or less, to a decided change in national sentiment. Without entering into the question of the practice of their predecessors, the religion and government of James I. and Charles I., no matter whether adopted or inherited, were essentially intolerant and arbitrary. What is equally undeniable, principles in respect to both were ostentatiously promulgated, at a period not only when the common sense of mankind began very generally to revolt at them, but when the rising power of the popular branch of the constitution, and the diversity of religious opinion, rendered their establishment as impracticable as unpalatable. This weakness necessarily threw all the strong and sturdy spirits, most opposed to indefinite prerogative and ecclesiastical intolerance, into the opposite extreme of republicanism. But it was not monarchy and episcopacy simply, as such, that the more disinterested and well principled of these opposed in the first instance; but monarchy and episcopacy as defined by the court and high church party.* The mischievous doctrines of passive obedience and divine right, which will always prove snares and pitfalls to sovereigns, who are misguided enough to govern as if they believed in them, were every day maintained, not merely as favourable, but essential to the English constitution. The history of the country, since that period, has happily proved, that a crown requires the diffusion of no such principles for its due support. Grant, indeed, as was then demanded, a dispensing power or privilege of suspending the authority of the law, the right to raise taxes without the consent of parliament, and the liberty to prosecute for difference of religious opinions, and claim, at the same time, passive obedience from the people, and what but arbitrary government can ensue? The obsti-

* Lives English and Foreign, vol. ii. p. 85.

† Rushworth's Hist. Coll. vol. vi. p. 28.

* The struggle no doubt rapidly became one for ascendancy on both sides; the too frequent consequence of appeals to arms to settle civil and religious differences. That which might be equality if bestowed, usually becomes ascendancy, when fought for.

nate claims of this description, on the part of Charles I. and his advisers, should always be borne in mind, in judging of the conduct and motives of men so undeniably disinterested and honourable as Blake; for it was not surprising that individuals of that class, who conscientiously maintained the religious tenets so undisguisedly assailed, should pass over limited monarchy, in their theoretical march to political liberty. It may be said that these observations will only apply to the first part of the reign of Charles I.: it may be so, to a certain degree; but the conduct of the family, when restored, too powerfully justified the distrust always entertained of it by those who were convinced that it would never willingly govern under the restraint of a well-regulated constitutional system, or sincerely give up the dangerous pretensions which its final expulsion alone terminated.

It was doubtless under the impulse of convictions, more or less akin to those alluded to, that Blake chose his party on the commencement of the disastrous conflict; and it is therefore highly to his credit and consistency, that he took no share in any of the measures which gradually changed the complexion of a contest for civil and religious liberty, into a struggle for personal interest and ambitious aggrandisement. Thus, for some time after the relief of Taunton, he took little part in public business, disliking the proceedings of the Independents and the army; and the expulsion of the Presbyterians. Nor, though inclined to a commonwealth, did he approve of the trial of Charles I., the execution of whom he deemed barbarous and illegal. He even went so far as to assert "that he would as freely venture his life to save the king, as he had done to serve the Parliament.* But, however much opposed to the arbitrary and vindictive measures against the life of the king, Blake seems entirely to have given up all hopes of agreement with Charles, after his refusal to accept the terms proposed to him while with the Scottish army. He had therefore joined the borough of Taunton in a petition to the House of Commons, never again to address the king; but he was invariably averse to any stronger measure than his deposition. His disapprobation of harsher proceedings indeed, was so well understood by Crom-

well, that, when the trial of the king was determined upon, a part of the forces, under Blake, was disbanded; and, to conceal the motive, the order was accompanied with a parliamentary compliment, and a donation of 500*l*. This aversion to every thing sanguinary, out of the field, was conspicuous in the whole of his conduct; and it forms the brightest part of his brilliant character that in all parleys and negotiations with the royalists, and especially in the treatment of the vanquished, he was invariably feeling and considerate. This humane disposition, added to the fact, that the whole of his career was rather that of an open and honourable warrior, than of an interested politician, has rendered him comparatively a favourite, even with the royalists. No man on the parliamentary side has been treated so tenderly by the numerous vindicators of Charles I., as Blake; owing partly, no doubt, to so many of his subsequent exploits, redounding to the honour of the country; but also, in no mean degree, to the frank and sincere character of the man.

But although personally averse to the trial and condemnation of the king, having strongly imbibed republican sentiments, Blake had no objection to the abolition of kingly government, and therefore after the unfortunate monarch's execution, he quickly fell in with the views of the prevailing party; and next to Cromwell, and possibly Ireton, was considered to be one of the most able and efficient officers of the commonwealth. Unlike the former leader, although doubtless anxious for glory, his services were no other way connected with views of self aggrandisement; and he seems to have aspired rather to be useful to his country, within the sphere of his acknowledged abilities, than to sway either as a legislator or politician. It has been alleged, and most probably with justice, that he formally adopted the principle, common to several of the most virtuous public characters of Greece and Rome, that it was a duty to serve his country under all circumstances; and he seems to have satisfied himself in the various changes of the times, by adhering to what he deemed its true interests. It is one of the unavoidable results of this line of conduct, that it renders honourable men occasionally subservient to the more interested views and purposes of others; and in this manner, the exertions of Blake were made conducive to the

* *Lives, English and Foreign*, vol. ii. p. 85.

advancement of Cromwell. He was not, however, such a man as that wily politician wished to have in his councils, and it is therefore conjectured, that his destination, which was from this time exclusively to the sea service, originated in Cromwell's anxiety to employ him where his talents would at once be efficient for the country, and powerless for the acquirement of any influence that might be directed against himself. Whether this supposition be justly founded or not, the well-judged appropriation of Blake to the navy, led to consequences of no small moment in the naval history of Great Britain.

CHAPTER II.

Union of Military and Naval Command

—Blake, Deane, and Popham appointed Commissioners of the Navy —Blake ordered to pursue the Fleet under Prince Rupert—Transactions in the Tagus—War with Portugal—Proceedings at Carthagea and Malaga—Defeat of Prince Rupert—Reprisals on France—Blake's Treatment of a French Captain—Services against the Isles of Scilly and Guernsey—Causes of War with the Dutch—First Engagement with Van Tromp—Expedition to the North.

FOR nearly a century and a half, the naval service of Great Britain has been rendered so strictly nautical, that the appointment of a soldier, nearly fifty years of age, to the command of a fleet, will be deemed extraordinary by those who are unacquainted with the progress of our maritime power towards its present superiority. In the reign of Elizabeth, such were the circumstances of the period, that men of great maritime experience were necessarily called into naval service; as for instance, Hawkins, Drake, Frobisher, and others; none of whom had been originally officers of the navy in the present sense of the term. In the same manner, the conduct of the fleet was often given to any nobleman, or officer possessed of general abilities for command; and this continued to be the case until towards the close of the reign of Charles II. During the Commonwealth, indeed, nearly all the most distinguished naval commanders had previously served in the army; although from the comparative perfection to which naval tactics have since been brought, and from the sea-

manship required in the manœuvres, on which they entirely depend, the conduct of a sea engagement, by a landsman, would, naturally enough, at this time be condemned as a very hazardous experiment. There was nothing, therefore, remarkable in the appointment of an officer of the talents and energy of Blake to the sea service: the genuine ground of surprise is, that he at once became the most able and successful naval commander of his day; but, promptness, decision, intrepidity, and enterprise, must at all times, form the chief ingredients of naval as well as of military heroism.

On the 12th February, 1649, the Colonels Blake, Deane, and Popham were appointed commissioners of the navy, and Blake himself was nominated to the command of a squadron, and ordered to sail in pursuit of the Princes Rupert and Maurice, who were in the Irish sea with that part of the fleet which had adhered to the king, and which was endeavouring to assist the Marquis of Ormond, then in arms for Charles II. in Ireland. Blake arrived with his fleet off Kinsale, in the following June, where the two princes lay in harbour. At the same time, Deane cruised off Plymouth, Popham between the Downs and Portsmouth, and Sir George Ayscue in the Bay of Dublin; by which several squadrons, the Parliament became completely masters of the sea. Such was the popularity of Blake, whom henceforward we shall call Admiral,* that the crews of the ships of Prince Rupert deserted to him daily, which induced the prince to execute ten seamen whom he detected in the attempt. Blake kept the royal ships blockaded until the following October, when despairing of relief by sea, and Cromwell being about to capture the town by land, Rupert and Maurice resolved to force their way through the blockading squadron, which, with the loss of three ships, sunk by Blake, they effected, and steered for Lisbon. Here they were kindly received, and sheltered by the King of Portugal; a duty of hospitality scarcely to be evaded by a monarch who had been in strict alliance with Charles I.

Blake rapidly followed the two princes

* He is indifferently called General or Admiral, in the original authorities: it has been thought better in the subsequent narrative, to adhere to the official designation which, in modern estimation, will be deemed most appropriate.

to the mouth of the Tagus,* and by order of the Parliament demanded the ships of Prince Rupert, as belonging to the Commonwealth of England. This requisition extremely embarrassed the Portuguese Cabinet; as policy exacted a compliance, while honour and hospitality dictated a refusal. The latter in this instance prevailed; and as the Portuguese had reason, from the spirit and promptitude of Parliament, to anticipate immediate war, a squadron of thirteen Portuguese ships was rapidly equipped by them to join that of Prince Rupert and to attack the English, anywhere between the two capes of Finisterre and St. Vincent, that it might appear the King of Portugal sought only to secure his own coasts.

Aware of the above junction, Blake and his squadron sailed away; soon after which he was joined by another under Popham, when (in October, 1650) they fell in with a Portuguese fleet of twenty-three sail, richly laden and bound from Brazil for Lisbon. Of these they captured twelve, containing 10,000 casks of sugar, and burnt three; when finding themselves in want of stores, they sailed for England with their prizes. The coast being thus clear, Prince Rupert, after having involved the King of Portugal in an embarrassing war with the Commonwealth, quitted the Tagus, and proceeded to Carthagea. He was quickly followed by Blake, who in his way homewards having fallen in with five transports on their passage to him with provisions and stores, immediately returned to the pursuit of the royal squadron. On his arrival at Carthagea, he came to an anchor before the fort, and announced that he was sent by the Commonwealth to pursue the enemy who had taken shelter there; and, the King of Spain being in amity with England, he requested either that the fleet might be given up to him, or that he might be permitted to attack it. A refusal, on similar grounds to those alleged by the King of Portugal, was given; but on being further pressed, a promise was made by the Commandant to send for orders to Madrid. Blake, not thinking the prince would venture out, proceeded on a cruise, on which Rupert, with the ships under him, left Carthagea, and went into Malaga, where he was so ill advised as to sink and capture some English merchantmen. Informed of this transaction, Blake sailed immediately for Malaga, where he arrived

in January 1651, and regarding the manner in which the prince had been allowed to act as dispensing with all ceremony, he attacked the royal squadron without reference to the Spanish authorities, and burnt or destroyed all but four or five ships, with which the two princes escaped to the West Indies, and supported themselves by capturing English and Spanish merchantmen. At length, Prince Maurice was cast away, and Rupert contrived with two or three ships to return to France, where he sold them with his prizes, on behalf of Charles II., to the French government. Such was the fate of a fleet of twenty-five finely-equipped ships, which on the execution of Charles I. had declared in favour of his son.*

A sort of equivocal warfare existed at this time, between the Commonwealth and France, brought on by the secret encouragement of French privateering, which proved very injurious to English commerce. Reprisals having been ordered, Blake had captured a French man-of-war of great value, previously to his first engagement with Prince Rupert. Soon after that victory, he fell in with another of forty guns, the commander of which, not apprized of the war between the two countries, was invited to visit the ship of Admiral Blake. He accepted the invitation without suspicion, and when he came on board he was informed of the war by the Admiral, who asked him if he would willingly resign his sword. The Frenchman spiritedly answered, No! on which, detesting all appearance of treachery, Blake told him to return to his ship, and fight it as long as he could, which he bravely did for two hours, and then surrendered.† This species of gallantry is attended with too great a carelessness of human life, to entitle it to the full acquiescence of reason and humanity; but it is highly characteristic of a frank and fearless nature, disdaining all advantages not obtained in an open and honourable manner. Not long after this exploit, the Admiral sailed for Plymouth, and on his arrival received the thanks of Parliament, and was appointed Warden of the Cinque Ports. His return to England took place in February, 1651; and in the following month an Act

* Life of Prince Rupert. Heath's Chronicle of Civil Wars, p. 275. Wood's Fasti. Oxon. vol. ii. col. 204.

† Life of Blake, in Gent. Mag., by Dr. Johnson. |

passed to make Blake, Deane, and Popham, or any two of them, Admirals and Generals of the Fleet, for the year ensuing.

The next service intrusted to this able commander was the reduction of the Isles of Scilly, which still held out for the king. These islands not only afforded shelter for privateers, but it had been discovered that the Dutch were forming views upon them, and had despatched Admiral Van Tromp and a squadron of twelve ships of war, with instructions either to purchase or reduce them. On the arrival of Blake, with a body of eight hundred troops on board, Sir John Greenville, who commanded for the king, after some little resistance submitted upon terms; and retired to Guernsey, which had also been preserved for Charles II. by Sir George Carteret, aided by a garrison of four thousand men. The reduction of this island was forthwith undertaken by Blake, assisted by a strong body of troops commanded by Colonel Haynes. They reached Guernsey in October, 1651, but the defence was so spirited, that in spite of the most active exertions both by the squadron and troops, the various forts could not be mastered until the following January, when the Governor capitulated, and was treated by the Admiral with all the respect due to his bravery and honourable character.* For these services, the two Commanders were thanked by the House of Commons. It was during this stay of Blake before Guernsey, that he was appointed one of the Council of State for the ensuing year. The schemes of Cromwell were now reaching maturity, and he felt all the value of the support of such an able officer and national favourite.

The following year, Blake was constituted sole Admiral for nine months, in the prospect of a Dutch war; and here a period of the naval history of England and Holland commences, which, while it strongly exhibits the spirit and energy of the people of both countries, affords a melancholy proof of the barren and futile nature of much of the warfare which has distracted the world. The enmity between the English and Dutch at this period, originated principally in commercial and maritime rivalry, directed in each state to party and personal purposes. It is difficult

now to ascertain which of the governments was the first aggressor; but there is no doubt that both were grievously to blame and that the hostilities which followed exhausted and weakened both sides, without proving in any essential respect serviceable to either. Hitherto indeed national emulation has been but another name for national enmity; but are there not some signs to show that a gradual improvement is taking place? And though it would be too sanguine to expect that powerful states will soon cease to be dangerous to their weaker neighbours, is it too much to anticipate, that with the increasing diffusion of knowledge, the gratification of mere personal ambition will be restrained; and that all those fancied necessities for war, which originate in mistaken views of political expediency, will yield to more enlightened principles, and more humane feelings? Highly indebted as were the United Provinces to the policy of Queen Elizabeth, for their emancipation from the intolerable yoke of Spain, the perpetually recurring stimulus of mercantile rivalry gradually overcame the recollection of those eminent services; especially as it was easy to interpret them into a political interference, which, considering the designs of Spain against England, it was as expedient for the latter to grant, as for the United Provinces to accept. Whatever the reason, their rapid growth into a maritime and commercial power was accompanied by envy of all correspondent advancement, on the part of a nation so admirably situated for the acquirement of that kind of superiority as Great Britain. This was exhibited in various ways during the reign of James I., whose anxiety for a close alliance with their formidable enemy, Spain, had still further excited their jealousy. Charles I. also obliged them to pay for a license for the right of herring fishing on the British coast, which claim, however reasonable, they resisted, and resisted to the utmost of their power. The subsequent marriage of the Princess Mary, eldest daughter of Charles, with the Prince of Orange, likewise formed a strong party against the English Commonwealth, and (after the execution of that prince) in favour of Charles II.; a circumstance of itself quite sufficient to produce a disposition to war on the part of the English rulers.

Thus, on the death of Charles I. in 1649, satisfied that no molestation

* Hist. of Rebellion, vol. iii, p. 265.

would ensue from France or Spain, the attention of the Independent leaders was drawn strongly towards the United Provinces, the strength of whose navy might render their espousal of the cause of the exiled king a source of considerable annoyance. Under these impressions, therefore, they sent Dr. Dorislaus, a civilian of Leyden, who had been naturalized in England, to the Hague, in order to produce a good understanding between the two republics; but unfortunately, he was assassinated by some Scottish royalists in that town the very evening of his arrival.* A suspected connivance at the escape of the murderers, produced a considerable sensation in England; but as the Parliament wished to form an alliance with the United Provinces, and as the death of the Prince of Orange afforded a favourable opportunity, the assassination of Dorislaus produced no interruption of these overtures, and in March, 1651, Oliver St. John, and Walter Strickland, were sent to the Hague, in the place of Dorislaus, to complete a treaty of union. This negotiation altogether failed, owing, as the Dutch writers affirm, to the unreasonable conditions insisted upon by the English; but more probably in consequence of an opinion that the affairs of Charles II. were not entirely hopeless, he being about to head his final expedition into Scotland, whither, indeed, the states themselves conveyed him. The Orange party was also strongly against any alliance which might defeat the future ascendancy of the infant prince; and thus the English envoys returned, not only disappointed, but incensed at the insults they had received from the common people at the Hague. No notice of this was however taken, until after the battle of Worcester, and the success of Monk in Scotland, which left the English government at leisure to follow the dictates of its resentment. The mere gratification of revenge, in a national sense, being a poor motive for war, it has been thought that the enemies of Cromwell sought to promote it, in hopes that such great expenses at sea might lead to the reduction of the army, which was visibly conducting him to the summit of power on land. On the other side, it has been argued, that Cromwell himself promoted the war in order to retain the very army it was thus proposed to reduce; which

contradiction only proves that nothing is more vague and inconsistent than conjectures respecting the designs of artful politicians. The real state of the case probably was, that Cromwell deemed it necessary to lower the naval predominance of the Dutch; and to defeat their grasping endeavours at a commercial monopoly. The latter of these objects was still more effectually promoted by the celebrated Navigation Act, which prohibited the importation of all foreign commodities, except in English bottoms, or in those of the country where the goods were produced. By this Act, which took place the first of December, 1651, the parliament quietly transferred a large share of the carrying trade from the Dutch shipping to that of Great Britain, and effected a most serious blow by an apparently simple and domestic regulation.* Parliament also granted letters of marque to those merchants, who complained of Dutch aggression, so that it soon became evident to the government of the United Provinces that war was resolved upon.

The conflicting authorities of the English and Dutch historians, leave it doubtful to this day which of the countries was really most anxious for war; for there is much plausible evidence to show, that jealous of the rising spirit and energy of the English Commonwealth, the Dutch were resolved to strike a blow that might cripple its navy and lessen its increasing reputation. But whatever was the real inclination, on either side, as if conscious that it could scarcely be vindicated, each party was solicitous to throw the odium of commencing the war upon the other. On the passing of the Navigation Act, therefore, the Dutch sent an embassy to London, which was received with great apparent respect; but instead of a revocation of the Act complained of, the Dutch ambassadors encountered a formidable recapitulation of all the injuries received from the United Provinces, at Amboyna, in India, Persia, Muscovy, Greenland, and other places, for the last thirty years, terminating with a demand of 1,700,000*l.* by way of reparation. The murder of Dorislaus was also adverted to; and satisfaction required for

* The policy and expediency of this measure were as evident at the time, as the necessity of some relaxation has been since. Possibly one of the most useful accomplishments for a modern politician is the art of discovering, when that which was once wise is wise no longer.

the omission of all steps against the assassins. On compliance with these claims, an alliance with the United Provinces was gravely proffered as before. These demands produced no surprise, for so little expectation had been formed of any pacific result from the negotiation, that the Dutch had been getting a fleet of one hundred and fifty ships of war ready for sea, during the absence of their ambassadors; and it now became certain that the first encounter of the respective national fleets, would terminate in direct hostilities.*

More space has been occupied in giving a due notion of the circumstances which led to the Dutch war, than usually belongs to the detail of historical events in biography, because it was desirable to exhibit the state of national feeling at the period when hostilities commenced. The nature of the rivalry with the Dutch came close home to the bosoms of a trading people; the pretensions of their navy must have still more forcibly assailed the pride and spirit of the seamen of a country, whose insular situation and previous exploits had marked it out for naval dominion. Blake was precisely a man to feel this stimulus in the highest possible degree; not to mention the strong republican notions of national glory, which he appears, in common with many other distinguished men of the day, to have owed to his classical studies. It was the great defect of Greek and Roman patriotism, that it would too frequently sacrifice not only justice, but the public interest, to advance the public glory. There is little reason to complain of Admiral Blake on this score; but it doubtless tended to conduct him to that general conclusion, which, in all the changes of the times, he continually impressed on his officers and seamen. "It is our duty," said he, "to defend the country, into whatever hands the government may fall;" or in still more characteristic phraseology, "under all circumstances, to prevent the foreigners from fooling us."

The ambassadors of the United Provinces were still in London, when a Dutch fleet of forty-five sail appeared in the Channel, under the command of Admiral Van Tromp, acknowledged to be one of the bravest and most experienced sea officers in Europe. The pre-

tended object of this squadron was to convoy some merchantmen; but it most unnecessarily anchored in Dover Roads, and from the circumstances which followed, apparently with a design to provoke hostilities. A small squadron of eight ships being then in the Downs, under the command of Major, afterwards Rear Admiral Bourne, that officer sent to know the reason of this unusual demonstration. Van Tromp pleaded stress of weather; which excuse being evidently untrue, Blake was ordered to the Downs, with such ships as were ready. On the appearance of the English fleet, Van Tromp weighed anchor, and bore up to it nearer than was necessary, and that too without striking his flag—the mark of homage which had always been paid to England in the narrow seas. To remind him of the expected salute, Blake fired a gun without ball; on which Van Tromp is said to have also fired a single gun on the contrary side, as if in derision. Blake fired a second, and then a third gun, on which Van Tromp answered with a broadside. Perceiving that it was the intention of the Dutch to fight, Blake advanced with his own ship, to discuss with Van Tromp the point of honour, and by explanation to spare the effusion of blood; but the latter cut short all negotiation, by firing a broadside into the English Admiral's ship, which, it is said, shattered his cabin windows. Blake was extremely incensed at this insult, and quickly ordered his men to answer the Dutch Admiral in his own way; but his anger evaporated in a somewhat coarse sea joke, "he took it very ill of Van Tromp that he should take his ship for a brothel, and break his windows." Blake singly sustained the brunt of the attack, until the remainder of his fleet and the squadron of Major Bourne could join him, when the fight became general, and lasted from 5 o'clock until night. In this engagement, which took place on the 19th of May 1652, the Dutch, notwithstanding their numerical superiority, appear to have lost two ships; and the advantage, although not otherwise of much moment, was decidedly in favour of the English.*

As each of the admirals had been directed, if possible, to place the blame of commencing hostilities upon the other, Van Tromp, in his official des-

* Rapin's Hist. of England, 8vo. edit. vol. xi. p. 60. Campbell's Lives of the Admirals, vol. ii.

* Heath's Chronicle, p. 319. Lives, English and Foreign, vol. ii. p. 99.

patch positively asserts, that he backed his sails and lowered his flag to the British Admiral, who nevertheless fired the first broadside, and wounded several of his crew;* while, on the other hand, Blake's letter as expressly states the contrary. It is difficult to doubt the assertion of an individual so personally honourable as Blake; and it appears that his conduct was fully justified by a report from the Council of State at home, as well as by the popular feeling, which was so much irritated, that it became necessary to grant a guard to the Dutch ambassadors, who attributed the engagement to accident and misconception on both sides. The States sent another envoy, ostensibly to effect a pacification; but the parliament persisting in the same high tone as before, the United Provinces at last recalled their ambassadors, and prepared for a continuation of the war. Both sides issued manifestoes on this occasion; the Dutch to demonstrate that they were attacked without provocation, and the parliament to recapitulate the preceding grievances, to which was now to be added the refusal to strike the flag. To this demand the States had pleaded, that although the Republic, in its infancy, had paid that compliment to the royal dignity of England, they did not hold it due to the Commonwealth. A more indiscreet plea could scarcely have been advanced, to men of the character of those who then ruled the destinies of England; and accordingly it was determined to maintain the national honour at all hazards. "But after all," continues Rapin, with great simplicity, or rather with that conventional language, which it is so usual to apply to commonplace political falsities, "this was by no means the true ground of the war; but these manifestoes were necessary to vindicate the rulers of both Republics, and to impose a belief on the subjects, that they were not plunged into these extraordinary expenses to support a war, without the most evident necessity."† That is to say, the people were to be deluded into the supposition of a necessity which did not actually exist. It is gratifying to feel assured that this species of delusion, at least, becomes every day more impracticable; and that it is only necessary for the people to be thoroughly convinced of the atrocity as

well as folly of war undertaken upon any but the most solid grounds, to render it wholly impossible.

The fleet of Blake was rapidly reinforced by the personal exertions of Cromwell and Bond, who repaired to Dover to consult with him on the subject. Some time elapsed before it was in a condition to meet that of the Dutch, which soon amounted to seventy sail; so vigorous were the exertions of those Republicans to obtain a naval superiority over the English. In about a month, Blake deemed himself strong enough to meet the enemy; and, aware of the arduous nature of the expected conflict, he proclaimed a solemn fast and day of humiliation, which both officers and seamen were called upon to observe. The two main fleets, however, did not encounter each other so soon as was expected; and in the mean time, the admiral most effectually exerted himself to annoy the Dutch trade. He then sailed with a strong squadron northward, and in less than a month, captured thirteen Dutch ships of war, being the whole of their Herring convoy. With great and considerate humanity, however, he did not destroy the fishing vessels, but only claimed the tenth Herring, the former tax, for the liberty of fishing on the British coast; nobly declaring his reluctance to waste so much food, to the probable hunger and distress of thousands.*

CHAPTER III.

Return from the North—Engagement with and Defeat of De Witt and De Ruyter—Exertions on both sides—A great Force placed under the Command of Van Tromp—Inferiority of the English Fleet under Blake—Result of the ensuing Engagement—Vain Glory of Van Tromp—Quick Recovery of Superiority by the English—Series of Engagements with the Dutch—Behaviour of Blake and his Colleagues on the turning out of the Long Parliament—Cromwell assumes the Protectorate—Peace with the Dutch.

BLAKE returned from the north with his prizes, and 900 prisoners; and reached the Downs on the 12th of August, 1652, where he was joined by several more ships; and his fleet being now

* La Vie de Tromp, p. 17.

† Rapin's Hist. of England, vol. xi. p. 62.

* Lives English and Foreign, vol. ii. p. 101. Campbell's Lives of the Admirals, vol. vi.

sufficiently strong, he steered over to the Dutch coast. During this cruise he fell in with a French squadron, proceeding to the relief of Dunkirk, and on account of some hostile proceedings at Newfoundland; he captured and carried it into Dover, by which means the former town fell into the hands of the Spaniards. On the 28th of the following month, of September, he met the Dutch fleet, under the command of De Ruyter and De Witt, who, in consequence of the popular dissatisfaction with Van Tromp, in Holland, had succeeded that officer. When Blake discovered the Dutch, he had but three of his ships with him, Vice Admiral Penn's squadron being at some distance; and the remainder of the fleet a league or two astern. He, however, bravely bore in among them, and being soon admirably seconded by the divisions under Penn and Rear Admiral Bourne, the fight began with great animation; and lasted until night, by which time the Dutch saw their Rear Admiral captured, and three other ships destroyed. Blake would have renewed the fight the next day, but the Dutch made all the sail in their power, and reached Goree. The English lost but few men, and not one ship, while the Dutch fleet landed more than 2000 wounded; the disadvantage, according to De Witt, being caused by the cowardice, or disaffection of his captains, irritated by a great arrear of pay and the unprofitable nature of the contest*.

The impolicy of such a war, on the part of a commercial people like the Dutch, was by this time apparent; for Blake, with his usual activity, had made use of his success, so as to annoy their trade in all quarters. The ill humour created by their losses vented itself with great asperity upon De Witt, who was in another way unpopular, from his republican opposition to the ascendancy of the House of Orange. On his return to Flushing, a tumult ensued; and so much disappointment was expressed, that De Ruyter was anxious to resign his commission, and De Witt took to his bed from pure chagrin. Considerable pains were taken by the States to remedy the late disasters; commissioners were appointed to inquire into the conduct of the offending captains; and the fleet being refitted, was once more put under the command of

Van Tromp. The English, on their side, were equally active; an act was passed by the Parliament, requiring all English seamen to return home in forty days, and such as were in India in twelve months: it also directed that all English carpenters, shipwrights, and other efficient artisans found on board the enemy's ships, should be thrown overboard without mercy. In point of fact, the war was essentially injurious to both countries; except upon that inhuman theory, which holds occasional warfare to be necessary as a species of exercise, and national prosperity to rest securely on established ascendancy alone. Were the power of self-preservation exclusively implied by this doctrine, it might be difficult to controvert it; but unhappily ascendancy in all its guises is disposed to be aggressive, and the power to oppress is almost invariably followed by the inclination. It must, however, be admitted, that the welfare of Great Britain is so intimately connected with naval superiority, that it is difficult altogether to condemn a course of proceedings which has materially conduced to it. Such was certainly the case with this otherwise profitless warfare. Whatever may now be thought of the motives on both sides, the merit of Blake will remain the same: if the contest was necessary, he carried it on with triumphant vigour, and ultimate success; and even if impolitic, he still rendered it as beneficial as it could be made, by the energy and spirit which he infused into the sea service, and the manner in which he made it redound to the honour of the English name.

Nothing is more remarkable during this war, than the transient superiority acquired on either side; at least as regards the number of ships employed, and the power of riding paramount on the high seas. This was partly owing to the smallness of the vessels of war, as compared with such as are now admitted into the line of battle.* Ships

* Whitelocke's Memorials, p. 526. Ludlow's Memoirs, vol. i. p. 428. Heath's Chron., p. 526.

* The comparative ease with which this could be effected, will be apparent when it is understood that at this time any merchantman, capable of carrying guns, could with a few alterations be converted into a man of war. It appears on the authority of the Parliamentary Journals of 1651, containing a list of merchantmen thus altered for the navy, that a vessel of 900 tons burthen could be made a man of war of 60 guns; and those of 700, 400, 300, 100, and 60 tons, rendered ships of war respectively, of 46, 34, 20, 10, and 8 guns; five or six men being allowed for each gun. It is further to be observed, that naval battles were not then fought in line, the first engagement of that description being the celebrated sea fight of the third of June, 1665, in which the Duke of York, afterwards James II., gained a victory over the Dutch Admiral Opdam, whose ship was blown up in the conflict. James, in

could then be prepared and manned with very great celerity, and consequently when exertion became necessary, a strong numerical force was quickly collected. The defeat of De Witt and De Ruyter stimulated the United Provinces to strain every nerve to regain the advantages which they had lost; and Van Tromp again appeared in the Downs in the command of a fleet of fourscore men-of-war. His purpose was to seek Blake, of whose deficiency of force he was probably well informed: the English Admiral had not only been ordered to weaken his fleet by despatching large detachments on different services, but it has been asserted that the Parliamentary Committee, having by this time become jealous of all their great commanders, were careless of repairing the damaged ships, or of expediting the necessary supplies. From some, or all

his "Life," attributes the introduction of the naval line of battle to himself; and if so, it does considerable honour to his professional skill, having been practised without variation by all our great admirals, until Lord Rodney was induced by Clark's "Essay on Naval Tactics," to adopt the manœuvre of breaking the line in his celebrated engagement with Count de Grasse. The following abstract is condensed from an elaborate list of the British navy, as it existed in 1675, about twenty years after the death of Blake. It is made up from a document in the handwriting of the eccentric sea-chaplain Henry Teonge; and from a similar statement, supplied to the House of Commons in the same year, both appended to Teonge's published diary. According to these authorities, the navy then consisted of—

- 8 First-rates, of from 100 to 90 guns, varying in tonnage from 1556 to 1102 tons, in length from 137 to 122 feet, and carrying from 550 to 850 men;
 - 9 Second-rates, of from 84 to 64 guns, varying in tonnage from 1032 to 663 tons, in length from 120 to 110 feet, and carrying from 530 to 410 men;
 - 22 Third rates, of from 74 to 56 guns, varying in tonnage from 978 to 417 tons, in length from 127 to 107 feet, and carrying from 500 to 340 men;
 - 37 Fourth-rates, of from 60 to 40 guns, varying in tonnage from 657 to 354 tons, in length from 110 to 88 feet, and carrying from 300 to 170 men;
 - 15 Fifth-rates, of from 40 to 28 guns, varying in tonnage from 366 to 180 tons, and carrying from 150 to 100 men;
 - 8 Sixth-rates, of from 20 to 4 guns, varying in tonnage from 194 to 35 tons, and carrying from 80 to 45 men;
- With 49 sloops, doggers, smaacks, yachts, fireships, &c. &c., carrying from 12 to 2 guns, and collectively manned by 1401 seamen.

It will be perceived that there is much discrepancy between the rates of tonnage of many of the vessels, and the number of guns which they carried—a fact to be accounted for on the presumption that adapted merchantmen could not always be made to carry guns in proportion to their tonnage; or that very different weights of metal are referred to. Of the foregoing ships, which are rated as in the original documents, one first-rate, six second-rates, eleven third-rates, twenty-six fourth-rates, one sixth-rate, and four smaller vessels—in all forty-nine, alone existed before the Restoration; which shows the rapid increase of the navy in the brief interval of fifteen years.

of these causes, it happened that Blake had only forty ships under him, when Van Tromp appeared at the back of the Goodwin Sands, where these two valiant chiefs had fought before; a choice of position which, it is supposed, he meant to be understood as a sort of national challenge.

Blake placed, by orders from home, in this mortifying state of inferiority, immediately called a council of war, when it was decided that a battle should be hazarded, under all disadvantages. Dr. Johnson, in his life of Blake, blames this resolution as exhibiting more of the rashness of a private soldier, than the wisdom of a commander. Something, however, must be allowed for the reluctance of a man of invincible spirit, to endure a second insult from the same adversary; and probably still more to the state of party at home, where a faction was anxious to lower his popularity. Nor is it quite clear that in a national point of view, more might not have been lost by declining an engagement than by risking a defeat without dishonour. Van Tromp might undertake with a strong and uncrippled fleet, what he would have been unable to effect after a dear-bought victory. At all events, it is to this daring spirit that the English navy owes its high character; and it is scarcely correct to judge of master minds by maxims applicable only to the mediocrity of talent possessed by the great mass of mankind.

After the determination to fight had been taken, the engagement would have commenced immediately, but for a change of wind, which postponed it until the next day. Early in the morning both fleets plyed a little to the westward, the English having the weathergage; and about noon the action began. It appears, that beside the great disparity in numerical strength, the English fleet was so poorly manned, that a great part of it could not engage at all, so that a few ships bore the brunt of the action. Of these the principal were the Victory, the Vanguard, the Garland, and the Triumph, the admiral's own ship. The action lasted until night, a short time previously to which the adventurous captain of the Garland, of forty guns, made a bold attempt to board the ship of Van Tromp, but fell in the attempt, which led to the capture of his own vessel. The Bonaventure, endeavouring to relieve the Garland, was also captured, after the fall of its commander. Blake himself was boarded

twice, and but for the brave manner in which he was supported by the Vanguard and the Sapphire, he would have fallen into the hands of the enemy. Beside the two ships taken, another was run ashore, and the entire fleet was so shattered, that had not night favoured their retreat, the consequences might have been still more disastrous. As it was, they were enabled to reach the Thames, and thereby defeated the intention of Van Tromp to assail them the next day with fire-ships, and complete their destruction. One of the Dutch flag-ships was blown up; and those both of Van Tromp and his vice-admiral, De Ruyter, were so damaged, as to require immediate laying up. This unequal contest lasted from eight in the morning of the 29th November, 1652, to six o'clock in the evening*.

The Dutch admiral, puffed up with this momentary advantage, was so vain-glorious as to sail through the channel with a broom at his mast-head, to signify that he had swept away the English from that sea; and the populace of the United Provinces equally elated, with the usual presumption of success, talked of capturing the whole of the English West India islands†.

The emptiness of the bravado of Van Tromp, and the futility of the expectations of his countrymen, were soon made apparent; for in about two months Blake, with whom, at his own request, Monk and Deane had been joined in commission, was enabled to repair and fit out a fleet of eighty sail of ships of war. With these they quickly sought and again encountered Van Tromp, who, with a fleet of seventy sail of vessels of war, and no less than three hundred merchant ships under his convoy, was returning up the Channel from the Isle of Rhé. Blake commenced the action off Portland with twelve ships, led by himself in the Triumph; and so warm was the conflict, that his own ship received no fewer than seven hundred shots in her hull, and might have been sunk but for the timely relief afforded by Captain Lawson in the Fairfax. In this action, which took place on the 18th February, 1653, Blake lost his own captain, a distinguished veteran named Ball, his secretary Mr. Sparrow, and received himself a grievous wound in the thigh. As usual, the fight lasted until night, when the Dutch, who had six men-of-

war sunk and taken, retired. Blake, after sending ashore his sick and wounded men, pursued the enemy; and for the two following days occasional encounters took place, in which both sides fought with extraordinary fury. At length the Dutch fleet reached the sands of Calais, where they anchored, and, favoured by the light draft of water of their shipping, they were enabled safely to tide it home. In these engagements the Dutch lost eleven ships and thirty merchantmen; and, according to their own accounts, full 1,500 seamen. The English lost only one ship; but the number of seamen killed and wounded was equal to that of the enemy. It is recorded, that being short of hands, Blake had embarked some regiments of soldiers on this occasion, who contributed greatly to the victory, and most probably their evident utility led to the establishment of regular corps of marines.

Towards the end of the following April, Blake and his former colleagues, with a fleet amounting to a hundred ships of war, attacked a Dutch fleet of seventy sail on their own coast; and, after capturing fifty doggers, drove them into the Texel. They then sailed northwards in search of Van Tromp, who with a rich fleet of merchantmen under convoy, having deemed it hazardous to enter the Channel, had steered round the north of Scotland. With great dexterity that able seaman contrived to escape the three English admirals, and to lead his merchantmen safely into port; a very beneficial service, but almost ludicrously contrasted with his former "top gallant humour," as one of the writers of the period has called it, of sweeping the British shipping from its own seas.

At length, convinced of the absolute necessity of again bestirring themselves with energy, the States enabled Van Tromp to put to sea, with a fleet of one hundred and twenty ships; and on the third of June he came into contact, off the North Foreland, with the English squadrons under Monk and Deane. Almost in the beginning of this engagement, Deane, a commander of distinguished reputation, was carried off by a cannon ball; and although, after a conflict of six hours, the Dutch retired, the success was but equivocal. The arrival of Blake on the fourth, with eighteen fresh ships, turned a partial advantage into a complete victory. Of the Dutch fleet six were sunk and eleven captured, and the number of prisoners amounted

* *Lives English and Foreign*, vol. ii. p. 104.

† *Heath's Chronicle*, p. 381.

to 1350, of whom six were captains. The English, on the contrary, lost not a single ship, while the number of killed and wounded fell short of 260. In this battle Van Tromp boarded the English vice-admiral Penn, but was not only beaten off, but himself boarded in return, and he would have been taken but for the timely assistance of his colleagues, De Witt and De Ruyter. It was, in fact, only by retiring once more among the flats and shallows of the Dutch coast, that Van Tromp was enabled to save the greater part of his fleet.*

The discontent of the people of the United Provinces during these successive defeats and mortifications was extreme; and the alternate despondency and presumption which they displayed, afford a very instructive lesson to those politicians who work on the popular feeling, and lightly employ the ignorance, the prejudices, and the inconstant passions of the multitude. What beyond a candid and patriotic appeal to the actual interests of the people can the honest statesman require? Upon any real emergency would such appeal be less forcible or the motives to exertion less earnest? Who in the long and vague annals of history, abounding as they do with the crimes and errors of the human race, but must perceive the readiness with which men usually answer the calls for sacrifices, when absolutely and evidently necessary? Where is the country whose records do not contain many more examples of brave and patriotic devotion in cases of urgent need, than of shameless and pusillanimous self-abandonment? It is however fair to remark, that rulers often participate in the errors which they propagate; and many a ruinous course of policy has been pursued with a firm conviction that it was just and necessary. Knowledge, then, on both sides is the only corrective: on that of the ruler, that it may not err with good intentions; and on that of the people, that they may discountenance every injurious appeal, whether the motives in which it originate be insidious or sincere.

While these contests were taking place at sea, an important change was effecting in the government at home. In the month of April, 1653, Cromwell turned out the remnant, or, as it has been usually termed, the Rump of the Long Parliament, and took measures for the

assumption of supreme power. The States and the Royalists looked forward with great anxiety to the manner in which the fleet and its commanders would receive this bold act of usurpation. Whatever hopes they might have formed were quickly terminated by the publication of a formal declaration from Blake, Deane, Monk, and the rest of the sea officers, that notwithstanding the recent changes, they felt that their duty, and the national trust reposed in them, required a continuance of their exertions against the foreign foes of the Commonwealth. Blake, on this occasion, emphatically expressed his often quoted opinion, that it was not *their* business to mind state affairs, but to prevent the enemy from taking advantage of our domestic disputes. "Remember," said he, "that we are Englishmen, and that our foes are foreigners."* The unsophisticated good sense of Blake perceived that a maintenance of the British ascendancy at sea, was equally necessary under every sort of sway; and that it was not for foreigners to profit by our dissensions, however they might originate, or to whatever they might conduce. At the same time, he had the less temptation to act otherwise, as the Parliament had, by this time, become exceedingly unpopular with the nation, in consequence of a design to perpetuate themselves being strongly suspected by all parties. The same jealousy, whether well founded or not, had been manifested by the Parliament towards the officers of the navy as to those of the army, which rendered them indifferent to a change, whatever they might think of the character of that which took place. As to Blake himself, he was probably too sincere a Republican to approve cordially of the approaching exaltation of Cromwell; for although on his return home in ill health, immediately after his last victory, he was appointed a commissioner for Somersetshire, in the Mock or *Little Parliament*, and was otherwise much consulted, it was so exclusively in relation to naval affairs, or foreign warfare, that his name stands perfectly clear of every shadow of imputation of cabal, or intrigue. On this account, as already intimated, he was regarded with respect by the most opposite parties; all of whom beheld in him a spirited and dis-

* Blake and Monk's Despatch.

* Fasti, Oxon. vol. i. Coll. 204. Lives English and Foreign, vol. ii. p. 109.

interested defender of his country, and an honour to the English name.

Before the health of the admiral was sufficiently recovered to go to sea again, the fleet commanded by Monk fought the famous battle with that of the United Provinces, which terminated in the death of Admiral Van Tromp, and in a bloody and dear bought victory by the English. Although not present at this engagement, which took place on the 29th, 30th, and 31st of July, 1653, Blake had assisted so much in getting the force equipped, and by his counsel generally, that parliament decreed him a gold chain in common with the other admirals; and in the following October, when he came to London and took his seat in the House of Commons, he was solemnly thanked for his many and important services.*

The formal assumption of the Protectorate by Oliver Cromwell distinguished the close of the year 1653, in which arrangement Admiral Blake appears rather to have acquiesced than assisted. This event was followed by a peace with the United Provinces, with whom negotiations had commenced soon after the battle in which Van Tromp lost his life. The terms of this treaty, which was signed in April, 1654, were highly honourable to England: the Dutch gave up every thing they had professed to fight for, although, in the exaction of some of our claims, there is reason to believe that, satisfied with the honour of maintaining them, Cromwell was not very rigid in their precise fulfilment.

Such was the result of the first of those struggles with the Dutch for naval dominion, which were so uselessly renewed after the Restoration, and which, as far as that direct species of rivalry was concerned, terminated at the Revolution of 1688. To the naval superiority obtained by the English, since that remarkable period in the annals of both, it is scarcely necessary to allude, except, perhaps, for the sake of remarking that while struggles for mere glory are unprofitable at best, they are still more unadvisable, where fluctuating sources of prosperity are called into a contest with great physical superiority, and higher natural advantages. Such was the case with the United Provinces, as compared with Great Britain; to say nothing of the strong motives to a friendly union between them, as regarded the more for-

midable foes of both. The two powers have since been frequently at war; but on which ever side the provocation has originated, the result has always been most injurious to the States. It must not be presumed, for a moment, that the foregoing argument is advanced with a view of deprecating those glorious contests with powerful tyranny and oppression, like that which released the United Provinces from the yoke of Spain, or in objection to such exhibitions of national spirit and just jealousy for the honour of the country, which are essential to its independence. Here danger may be nobly incurred, and sacrifices justly as well as wisely called for; but how few are the wars of this description, compared with the number of unnecessary conflicts produced by illiberal jealousy, venal intrigue, and personal ambition! However visionary those ideas of perpetual peace may be, which ardent and benevolent minds persuade themselves may be realized, we surely may cherish the hope that the unholy and indefensible warfare, to which we are alluding, will necessarily decrease, in proportion to the diffusion of information among the great mass of mankind.

CHAPTER IV.

Expedition to the Mediterranean—Respect paid to Blake by the Officers of France, Spain, and Holland—Negotiation with the Dey of Algiers—Chastisement of the Bey of Tunis—Redress exacted for injuries and insults to the English in the Mediterranean—Respect paid to the Protector by the Italian States—War with Spain—Expedition to Cadiz—Illness of Blake—Exploit at Santa Cruz—Behaviour of the Admiral in respect to Captain Blake—Sails for England—Death—Funeral Honours—Treatment of his Remains at the Restoration—Character.

IN the first parliament called by Cromwell, in September, 1654, Blake was once more chosen to represent his native town of Bridgewater; but, although by the peace with the United Provinces, the necessity for naval exertions was much abridged, the mistaken policy* of Cromwell having decided on

* Lives, English and Foreign, vol. ii. p. 109. Winstanley's English Worthies, p. 555.

* Cromwell had not the merit of perceiving the rising ascendancy which the genius of Cardinal Richelieu had been preparing for France; and, consequently, was unconscious how much his decision against Spain, in furtherance of the ambitious views

a war with Spain, he was soon called again into active service. The known attachment of the admiral to republicanism has been alleged on this occasion also, as the cause of his appointment to the command of a fleet; but surely, having determined upon hostilities, the selection of the most eminent seaman in the country seems only to have been a matter of course.

In the first instance, however, Blake was despatched in November, 1654, with a formidable fleet into the Mediterranean, to support the honour of the English flag, and to procure satisfaction from the Barbary Powers, for their many acts of piracy against British merchantmen. This expedition was sent out before war was declared against Spain; so that in the ensuing December his fleet entered the port of Cadiz, where he was received with all imaginable respect. This, no doubt, was partly owing to the anxiety of the Spaniards to keep well with the Protector; but no small portion of homage was excited by the known talents and high achievements of the gallant commander himself. Aware of former consequences, a Dutch admiral would not hoist his flag while Blake remained at Cadiz; and a French squadron having stopped one of his tenders, which had been separated from him in a storm, the commander, as soon as he knew to whom he belonged, sent for the captain on board the flagship and drank Blake's health in his presence, under a discharge of five guns.* The Algerines were likewise so daunted by the terror of his name, and so apprehensive of his designs, that, of their own accord, they stopped the Saltee Rovers and made them give up what English prisoners they had on board, which they sent freely to the admiral without ransom. These concessions, however, did not prevent him from sailing to Algiers, where he appeared on the 10th March, 1655, and sent an officer on shore to demand the release of all English captives, and ample satisfaction for the piracies committed on the British trade. The Dey, who seems to have known the best manner of soothing a temper like that of Blake, pleaded his inability to release ships and captives

which had become private property, without producing a mutiny; but the latter he agreed to give up on a moderate ransom per head, and offered to make such a peace with England as should prevent all future hostilities. He accompanied this answer with a large supply of provisions, and for the present, Blake appeared satisfied. It is not unworthy of remark in this place, that these maritime plunderers have continued, in a similar manner, the objects of alternate chastisement and negotiation to this hour, when a leading European nation has a fleet before Algiers, on an errand precisely of the same nature as that of Blake's, upwards of one hundred and seventy years ago. It is melancholy to reflect, that a fine and extensive coast like that of the north of Africa, once, too, the seat of great comparative civilization, should have been allowed to remain in the possession of successive hordes of incurable pirates, insolent and rapacious by turns to all Christendom. If endured, because dangerous plans of national aggrandisement might follow their destruction—what a satire upon the moderation of the great Christian powers! If acquiesced in by some nations because a greater injury is inflicted upon others—how discreditable such motives to religion and humanity! Under every view of the case, the long toleration of this nuisance is a disgrace to civilized Europe.

From Algiers, the admiral sailed to Tunis, the Bey of which, relying upon the strength of his fortresses, returned an insolent answer to the message of Blake, and even refused to allow him to supply himself with fresh water. "Here," said the barbarian, "are our castles of Goletto and Porto Ferino; do your worst: do you think that we fear your fleet!" On receiving this hasty reply, the Admiral immediately bore away into Porto Ferino, with his first and second rate ships. He reserved his fire until they had approached within a musket shot of the castle and line of fortifications, when he opened his guns so effectually upon both, that in two hours the castle was rendered defenceless, and the guns on the works along the shore were nearly all dismounted, although no less than sixty had played on the English fleet at one time. Nine ships were lying in the harbour, and Blake ordered every captain,

of that power, would prove nationally injurious. The arrogant spirit of encroachment, displayed by Louis XIV. in the succeeding half century, rendered this impolicy very conspicuous. But a Spanish war was more popular, and, looking to immediate consequences, more profitable than a French one.

* *Lives, English and Foreign*, vol. ii. p. 114.

including even the captain of his own ship, to proceed in their long boats, with chosen crews, and destroy them. This was accordingly executed, with the loss of only twenty-five men killed, and forty-eight wounded, while the Admiral and his fleet covered the assailants from the fire of the castle, by playing continually on it with their cannon. This daring action spread the terror of his name, and produced concessions with very little trouble from the Bey of Tripoli; after which, he again returned to Tunis, where he now met with nothing but submission. As the purpose of this expedition was to procure satisfaction for all the injuries and spoliation suffered by the English in the Mediterranean, during the civil wars, when it was thought they could be inflicted with impunity, several of the minor Christian powers, who had taken similar liberties, were next called to account. Among the rest, the Knights of Malta were obliged to submit to reparation, as also the Duke of Tuscany, who was compelled to pay 60,000*l.* as a compensation for losses sustained from his subjects by the English. It is added, that the Admiral sent home no less than sixteen ships, laden with effects thus exacted, for insults and injuries endured by English subjects in that sea, during the political struggles which had harassed their country at home.*

These exploits were performed in the spring of 1655, and such a formidable opinion did they create of the power, strength, and tenacity of the English government, that most of the states of Italy thought proper to send messages of compliment to the Protector; and the Grand Duke of Tuscany and the states of Venice, in particular, distinguished themselves by splendid embassies. It is, in fact, difficult to select a period in English history, when the country was so feared and courted, as under the Protectorate of Oliver Cromwell. Some of this deference was, no doubt, attributable to the political situation of Europe at the time, but no small part was due to the great abilities of the Protector, and to the vigour and efficiency of his councils. His instruments too, as in the instance of Blake, were well chosen; and as, by the depression of the ancient aristocracy, he was called upon for few or no sacrifices to family support

and connexions, so he had no occasion to give employments to persons who were unfit for them. He was indeed one of those master spirits, who can employ ability without fearing it—a faculty exceedingly rare, even among able rulers.

By this time, the secret expedition, under Penn and Venables, sent by Cromwell to surprise and capture St. Domingo, and which terminated in the taking of Jamaica, had become known to the court of Madrid, which immediately confiscated all the English property in Spain; and the war between the two countries was from that time carried on with extreme vigour and animosity. Blake, of course, did his best to ruin the maritime force of Spain in Europe, as Penn was endeavouring to do in the West Indies; and so great and incessant was his activity, that his constitution began to sink under efforts so unremitting. Fearing that some bad consequences might ensue, if he were not joined by a colleague, proper to take charge of the fleet, in the event of his decease, he suggested the expediency of joining some able commander in the commission with himself; in compliance with which suggestion, Admiral Montague was sent out, with a strong squadron to reinforce and assist him. Soon after the arrival of Montague, they repaired, with the joint fleet, to Cadiz in 1656, where they continued to blockade a Spanish squadron for several months. The Admiral then having taken the major part of his fleet to the coast of Portugal, to obtain water and refreshments, Captain Stayner, who had been left cruising with a small squadron, fell in with the Spanish homeward-bound Plate fleet, and captured the Vice-Admiral, Rear-Admiral, and another galleon, with two millions of dollars on board; all which prizes, together with the prisoners, were sent to England, under Montague; Blake, notwithstanding his illness, remaining in the Mediterranean.

The maladies with which this indefatigable officer was afflicted, were the dropsy and the scurvy, which now began to make dreadful ravages in his constitution; yet his spirit remained unabated; and being informed that another Plate fleet had put into Santa Cruz in the island of Teneriffe, he sailed thither in the month of April, 1657, with a fleet of twenty-five men-of-war. He arrived in the offing of Santa Cruz on the 20th, where he discovered

* Hist. of the Rebellion, vol. iii. p. 580. Heath's Chronicle, p. 366.

six heavy galleons and ten smaller ships moored close to the shore, with their broadsides towards the sea, the inner vessels secured by a boom, and all disposed in such a manner as to present the appearance of being almost unassailable. Nothing seemed to have been omitted by the Spanish commander, a man of courage and conduct, to render a successful attack impossible. The ships were defended not only by a strong castle in a very commanding situation, and furnished with heavy ordnance, but seven additional forts had been erected, mounting from three to six guns each, and united by lines of communication, manned by musketeers. Yet, notwithstanding these able dispositions of the Spanish General, such an idea was generally entertained of Blake's enterprising character, that the captain of a Dutch merchantman, then in the bay, at once made up his mind, from the manœuvres of the English Admiral, that an attack was intended; and to avoid ill consequences to himself from the approaching conflict, he immediately waited upon the Spanish Commander, and requested leave to quit the harbour, plainly stating as his reason for the request, his conviction that Blake would be soon among them. The resolute Spaniard at once granted him the desired permission, exclaiming with a confident smile—"Get you gone, if you like, and let Blake come if he dare."*

The Admiral had by this time settled the question of daring, having made all his dispositions for the attack. A squadron of ships was selected for the first onset, commanded by Captain Stayner, in the Speaker frigate, who proceeding directly into the bay, assailed the Spanish fleet with extreme fury, perfectly regardless of the guns of the forts which played on his ships in every direction. Another division of the fleet was judiciously sent to occupy the attention of the castle and the forts, while Blake himself joined Stayner, and attacked the Spanish ships, which were not much fewer in number than the English, while the crews greatly exceeded them. Notwithstanding this advantage, in a few hours the Spaniards were driven entirely from their shipping, and Blake, who perceived the impossibility of carrying the vessels out, ordered his men to set fire to their prizes. This was done so effectually, that all the

Spanish ships were reduced to ashes, except two, which sank during the engagement, and exhibited only a small portion of their masts above the water.*

It is necessary to mention a circumstance which has exposed this celebrated affair to much professional remark, both at the time it occurred, and even since. It is stated that the direction of the wind which prevented Blake from bringing his prizes out, would have prevented him from getting out himself, but for its sudden veering to the south-west, a change of very rare occurrence at that time of the year. Should this latter assertion be true, it must be confessed that this daring attack wears the appearance of a trusting to contingency, or bare possibility, which must be deemed rash in the extreme, and so it has been frequently termed by authors of considerable reputation. Unhappily the gallant performer of the exploit died before he reached his native land, which deprived the world of his own explanation of the affair; but as the bay of Santa Cruz is open, without any difficulty in the egress, we cannot help suspecting, that the land breeze, which so timely carried him out, was not so unusual as here represented; and that he rested upon a feasible exertion of skill and seamanship, and not upon an interference in his favour so apparently special, that it might almost be deemed miraculous. The writer of the account whence we gather this narration,† directly attributes this change of wind to Providence, which leaves Blake's professional prudence in great jeopardy, as he could have scarcely looked forward to such an interposition. Is it not more probable, that a man, who united so much coolness and judgment to undaunted resolution, saw many things possible which were invisible to less gifted eyes? Blake never seems to have made any signal mistake in the whole of his naval career, for it has already been shown, that his attack of Van Tromp, with an inferior force, has by no means been proved to be either unnecessary or unadvisable. Other and more general reasons render it probable, that the alleged critical change of wind was exaggerated in the narratives of the day. People like to seem indebted to the visible favour of Providence, and its

* Heath's Chronicle, p. 391.

* Heath's Chronicle, p. 391.

† Heath.

special protection was always very unequivocally claimed by that predominant English party to whom Blake's success was peculiarly acceptable. On the other hand, a taste for the marvellous is even still more prevalent; and simply as an extraordinary event, the more surprising the version of the story, the more would it be cherished by the multitude. In a word, it is difficult to believe that an officer of the high character and experience of Blake, would risk his reputation by an act which nothing but a most unusual phenomenon could prevent from being at once fatal to himself and injurious to his country.

Rapin, who seems never to have been cordial to the memory of this great seaman, on account of his success against the Dutch, remarks, that however heavy the loss to the Spaniards in ships, money, men, and merchandise, the English gained nothing by this enterprise, but glory.* Dr. Johnson however, tersely and justly observes, that in warfare an increase of military reputation is an increase of power, and that he who weakens his enemy, in effect strengthens himself.† As respects Spain, this was particularly the case, for her South American treasures had become the chief source of her power of annoyance. This is not to defend the vain glory of war, or to vindicate its barbarities: the more clearly indeed it is shown that havoc and destruction are inevitably connected with it, the more plainly is proved the wickedness of that policy which would wantonly inflict its horrors, or create artificial pretexts for the calamities which are its inseparable attendants.

To return to the Admiral: the union of skill and bravery in this transaction is forcibly evinced by the fact that the loss of the English amounted, in killed and wounded, to about 200 men only, without the destruction of a single ship. An affair, which must have been very afflicting to him, occurred in this battle, and the manner in which he acted in respect to it exhibits the clear and patriotic spirit of the man most characteristically. His brother, Captain Humphrey Blake, who commanded a ship for the first time, showed some lack of courage and talent as an officer, ‡ which convinced Blake that he was altogether

unfit for the profession of arms; and with the inflexible spirit of an ancient Roman, the Admiral immediately cashiered and sent him home. What adds to the fine spirit of this conduct is, that he continued to regard him kindly as a brother notwithstanding, and at his death left him his paternal estate. A stranger to fear himself, he was enough of a philosopher to be satisfied, that a constitutional temperament is not always to be corrected by the will; and that a man may be useful in the peaceable walks of society, whom it is impossible to stimulate into military ardour. His country, its service, and its renown, were preferred to everything else in the mind of Blake: those saved harmless, he was again enabled to indulge his domestic affections; and in all his dealings with vanquished enemies, he was uniformly one of the most humane and placable of men.

As soon as the news of this extraordinary piece of service reached England, the Protector sent his secretary to acquaint the Parliament, who ordered a public thanksgiving, and directed that a diamond ring of the value of 500*l.* should be sent to the Admiral. One hundred pounds were also voted to the Captain who brought home the news; and the thanks of the House were ordered to be conveyed to all the officers and seamen employed, by the mouth of their commander. As the affair of Santa Cruz was the concluding exploit of this valiant seaman, so the honours thus conferred upon him proved the last testimonials of respect that he was destined to receive from his beloved and grateful country. Returning towards the Mediterranean, after cruising some time before Cadiz, he discovered that his end was rapidly approaching, and became anxious to reach England. This, however, he was never again to behold, for he died just as the fleet reached Plymouth Sound. As he approached the Channel, it is said that he frequently inquired if the land was seen; but the exact circumstances attendant on his death are not recorded. He yielded up his gallant spirit on board the *St. George*, on the 17th day of August, 1657, having just completed his fifty-ninth year.*

The life and death of Blake will remind the reader of two distinguished Admirals of modern times:—the splendour of his career resembling the heroic Nelson's—and its close, that of the indefatigable and devoted Collingwood!

* Rapin, Hist. of Eng., English 8vo. edition, vol. xi. p. 96.

† Life of Blake in Gent. Mag.

‡ Lives, English and Foreign, vol. ii. p. 121.

* Mercurius Politicus, p. 375.

Nothing was wanting on the part of the Protector, the Parliament, or the people, to evince their high estimation of a man who had so ardently and disinterestedly devoted himself to the service of his country. The day after he died, he was embalmed and wrapped up in lead; his bowels were buried in the Great Church, at Plymouth, and his body sent round with the fleet to the Downs, and thence conveyed by water to Greenwich. There it lay in state, until the 4th of September, when it was borne up the Thames in a barge, covered with black velvet, and adorned with escutcheons and devices, to Westminster. Besides his brother, relations, and domestics, the funeral was attended by Oliver's Privy Council, the Commissioners of the Admiralty and Navy, the Lord Mayor and Aldermen of London, the Field Officers of the Army, and other persons of office or quality, who followed in a great number of barges and boats, covered with black cloth, and marshalled by the Heralds at Arms, who arranged the procession. On landing, they proceeded through a guard of several regiments of foot, drawn up to receive the procession at the Abbey; General Lambert, with whom the deceased had been on terms of great intimacy, being present. The procession having reached the Cathedral, the body was interred in a vault constructed for the purpose in Henry the Seventh's Chapel.* It is melancholy to be obliged to add, that at the Restoration the shadowy honour of an interment in the Abbey was no longer to be allowed to this great commander, whose body was dug up with those of Cromwell, Ireton, and many more. Some distinction was however made: the remains of Blake were decently reinterred in St. Margaret's Churchyard, while the bones of the others were treated with the greatest ignominy.† The propriety of this transaction as regards Blake was questioned at the time, even among the friends to the restoration; at present it will be regarded with unmixed disgust. The naval services of this valiant man were so truly national; he had done so much to render the power and character of his country respected, and in such strict accordance with the ideas entertained of public duty on all sides, that any manifes-

tation of disrespect to the ashes of so illustrious a patriot, was as revolting to good feeling as to good policy. In every point of view, indeed, posthumous revenge is mean and disgraceful; and those who can derive satisfaction from insulting the remains of men, before whose ascendancy they were forced to bend while living, only doubly proclaim their natural inferiority.

To the public and professional character of Blake the testimonies are numerous; and with a little abatement on the score of party feelings, nearly unanimous. It has been already remarked, that, in common with many other distinguished characters of the day, he appears to have formed his notions of patriotism from the republican models of antiquity.* Love of country, and devotion to its greatness, freedom, and independence, were, theoretically at least, the primary duty of every wise and virtuous republican of Greece and Rome; and Blake adopted that principle with a stoical firmness of soul, which enabled him to excel nearly the whole of his contemporaries in fulfilling his high notions of the sacrifices due from a patriot to the public good.

From the moment Blake entered public life, he never seems to have indulged in any sort of cabal or intrigue for political influence; the peculiar openness and sincerity of his conduct being vouched for by all who have written about him.† His freedom from every thing like a passion for acquisition, was equally conspicuous; for notwithstanding the immense sums which passed through his hands, so upright was his conduct as a public servant, that he scarcely left 500*l.* behind him, in addition to his paternal estate of about 200*l.* per annum. Love of fame may very possibly be thought to have been a considerable incentive: it might be so, but the love of fame is injurious only so far as it conduces to a selfish performance of extraordinary actions, with a view to mere personal no-

* The celebrated Hobbes was so impressed with the effect of the Greek and Roman historians and orators on the mind of the youth of the preceding age, that in the spirit of his opinions concerning passive obedience, he goes near to advise their total rejection in the education of Englishmen.

† The testimony given of this quality is peculiarly lively and spontaneous. "He (Blake) was," says Whitelock, "a man of as much gallantry and sincerity as any of his time, and as successful." Bates, although a very decided royalist, in his *Elenchus Mortuum*, is equally prompt in the praise of Blake's honour and frankness.

* Kennet's Register and Chronicle, p. 536.

† Neal's Hist. of the Puritans, vol. iv. p. 174. Grey's Examination of Neal's Hist., vol. iii. p. 318.

tority; while, on the contrary, it may be deemed a salutary stimulus to ardent exertions in the fulfilment of duty. It is sufficient to ensure a high estimation of the character of Blake, that with the total absence of all views which, in the general opinion of mankind, are pronounced mean, selfish, or interested, he rendered the greatest services to his country; to advance whose welfare and reputation, formed the constant passion of his life.

As a warrior, both on sea and land, Blake forms a remarkable instance of the latent aptitude for a peculiar line of exertion, which may exist in men before they have any opportunity of displaying it. He was forty before the civil war broke out, and nearly fifty before he served at sea, and that as a commander at once. The mere fact of fighting ably and bravely at sea, would not distinguish him from many of his colleagues; but he no sooner stepped on ship-board, than he gave a new character to naval warfare, and made the most striking improvement in this important service, by the strength of his own genius, unaided by experience. The testimony of Lord Clarendon is unequivocal on this point, and it cannot be given better than in his own words.

"He (Blake) was the first man who declined the old track, and made it manifest that the science might be attained in less time than was imagined, and despised those rules which had been long in practice, to keep his ship and men out of danger, which had been held, in former times, a point of great ability and circumspection; as if the principal art requisite in the captain of a ship, had been, to be sure to come home safe again. He was the first man who brought the ships to contemn castles on shore, which had been thought ever very formidable, and were discovered by him to make a noise only, and to fright those who could rarely be hurt by them. He was the first that infused that proportion of courage into the seamen, by making them see, by experience, what mighty things they could do if they were resolved, and taught them to fight in fire as well as upon water; and though he hath been very well imitated and followed, he was the first that gave the example of that kind of naval courage and bold and resolute achievements."*

It is scarcely necessary to add, that the foregoing passage from a writer who

cannot be suspected of partiality, is conclusive as to the high professional merits of Blake, who seems to possess an indisputable claim to the honour of having infused a great portion of that peculiar energy and spirit into the English navy, by which it has ever since been distinguished. The fact that both in his own days, and subsequently, he has been accused of rashness, will derogate but little from the justness of these pretensions. When a man of invention and enterprise ventures boldly, and is uniformly successful, it is both more generous and more just, to attribute the success to his superior capacity, than to dwell invidiously upon apparent temerity, or surprising good fortune. Every case no doubt is, strictly speaking, individual, and must rest upon its own merits; but the naval annals of Britain would have been very different from what they are, had a too calculating spirit of caution been prevalent in those whose deeds they record.

There is another point of view, in which the character of Blake, as a commander, exacts attention, and that owing to the very peculiar nature of the times, and the consequent object of the expeditions in which he was engaged. A general disposition prevailed, particularly on the part of maritime and commercial powers, to take advantage of the disorders in England; and in consequence, much spoliation and insult had been endured by English merchantmen. To this cause of irritation was subsequently added a manifest reluctance to act fairly towards the Commonwealth, unless when prompted by fear. On this account, Blake, especially in his later services, was frequently called upon to exercise a discretion in his negotiations, which peculiarly evinced the spirit and character of the man. It is not to be denied that, in some instances, he displayed the overbearing features of the republicanism of antiquity, and, alive only to the honour of his own country, neglected the consideration which is due to the feelings and rights of others; but this was the prevailing spirit of all the leaders of the Commonwealth, and all men must be judged with an allowance for the predominant sentiment of the times. The sword-in-hand intercourse of the Admiral with the Courts of Spain and Portugal, the Duke of Tuscany, and others in the Mediterranean, more particularly illustrate the existence of the disposition here alluded to, as relates to specific

* Hist. of the Rebellion, vol. iii. p. 602.

national objects. The following characteristic anecdote, related by Bishop Burnet, exhibits a like spirit in reference to a minor point. Although a similar piece of conduct at present, would scarcely be deemed justifiable, it requires a strong exertion of reason to be altogether out of humour with it.

"While Blake lay in the road of Malaga, before the war broke out with Spain, some of his seamen, going ashore, met the Host carrying about, and not only paid no respect to it, but laughed at those who did. One of the Spanish priests put the people upon resenting this indignity, and they fell upon them and beat them severely. When they returned to their ships, they complained of this usage; upon which Blake sent a trumpet to the Viceroy to demand the priest, who was the chief instrument in that ill usage. The Viceroy answered, that he had no authority over the priests, and so could not dispose of them. General Blake, upon that, sent him word that he would not inquire who had the power to send the priest to him, but if he were not sent within three hours, he would burn their town. The Spaniards, hearing this, obliged the Viceroy to send the priest to Blake, and he justified himself upon the petulant behaviour of the seamen. Blake answered, that if he had sent a complaint to him of it, he would have punished them severely, since he would not suffer his men to affront the established religion of any place at which he touched; but he took it ill that he had set on the Spaniards to do it, 'for he would have him and the whole world to know, that none but an ENGLISHMAN should chastise an ENGLISHMAN.' He then treated the priest civilly and sent him back, being satisfied that he had him in his power. Cromwell was much delighted with this, and read the letter in council with great satisfaction, saying that he hoped he should make the name of an Englishman as great as ever that of a Roman* had been."[†]

Had a commander so distinguished as Blake, died within a century of the present time, materials would, most likely, have abounded for a very particular account of his deportment, manners, and conduct in private life; with all those various minor points of character which are so necessary to individualize a portrait, and render it exclusively that of the person whom it is

intended to represent. In the time of Blake, there was no periodical press on the alert to diffuse all sorts of information respecting celebrated men; even to a fatiguing extreme. Quartos and octavos did not then appear within three months of the decease of any person of the least notoriety; which if crude and ill-digested as formal biography, at least form a collection of all the matter of fact and hearsay, known or in circulation, for the exercise of sounder judgment and more prudent consideration in after time. We however learn, that in person Admiral Blake was under the middle size; but that his features were prepossessing and manly, with a quick, lively, and intelligent eye. It has already been observed, that from his youth, he was distinguished by gravity, and simplicity of manners, occasionally enlivened by a humorous bluntness of speech. Some homely lines of Winstanley, in his 'English Worthies,' intimate, that he, who made so many men tremble, was himself peculiarly embarrassed and confused in the company of women; a fact which may account for his always remaining a bachelor. He was pious, without displaying any of the affectation and hypocrisy which mingled so much with the religious pretensions of the age, and which prevailed to an almost ludicrous excess among the party to which he was attached. Sincerity and the absence of everything bordering on intrigue, or dissimulation, were indeed the characteristics of Blake. He was liberal to the very extent of his fortune, and his purse was always open to his officers; he was strictly just and humane to every body; and to his sailors he proved himself a parent. This mixture of the amiable and softer qualities with the most fervent courage, invincible fortitude, and eminent talents, is not unprecedented, although rare. It is well for human nature that the union may exist; and to the honour at once of the individual, his profession, and the country which gave him birth, it has seldom been exhibited more conspicuously and more uniformly than in ADMIRAL ROBERT BLAKE.*

* The fortunes of the brothers of the Admiral are involved in some obscurity; but it is asserted by the author of 'Lives, English and Foreign,' that his brother Humphrey was so much harassed for his nonconformity, after the restoration, as to be induced to sell his estate and repair with his family to Carolina. A considerable family of the name certainly lived in that state; the head of which was one of the Lord Proprietors. Several descendants of the family are also to be found in the West of England.

* Another proof of the classical tendency of the Republican spirit of that age.

† Burnet's Hist. of His Own Times, fol. edit. vol. i. p. 82, 81.

LIFE OF DR. ADAM SMITH.

Introduction.

It is well known that the late lamented Dugald Stewart, amidst the profound and comprehensive studies to which his life was dedicated, became the biographer of three of his countrymen—two of them being amongst the most distinguished of whom Scotland has to boast: these were, Dr. Robertson the historian, and Adam Smith. His friend and tutor, Dr. Reid, we place, where we conceive the world has placed him, in a rank far below these, and where we cannot but think Mr. Stewart would himself have placed him, if his affectionate remembrance of his early instructor had left his judgment perfectly impartial with respect to Dr. Reid's merits as a philosopher.

Since the days of the *Memorabilia*, when Xenophon became the biographer of Socrates, there has been seen perhaps no proportion so equal betwixt the writer and his subject, as when Dugald Stewart wrote the "*Memoirs of the Life and Writings of Adam Smith.*" Yet, congenial as was the theme, and beautifully as he has illustrated the *writings*, there is a deficiency in the *life*. It was observed of Mallet, that he wrote the life of Lord Bacon, and forgot that he was a philosopher. This, at least, cannot be said of Mr. Stewart. He has kept the philosopher so much in mind, that he has almost forgotten the man. In his review of the works of the distinguished person, in his criticism and his comments, we find everything that we can desire and might expect, even from the pen of Mr. Stewart; but we look in vain for those traits of personal character, those slight yet important incidents and anecdotes which marked the individual, which, when preserved and depicted, form the great charm of biography, and which serve, far more than the most laboured disquisition or panegyric, to recommend to us, and quicken our interest in, the circumstances by which the subject of the memorial acquired his celebrity. Mr. Stewart seems to have entertained a difference of opinion upon this point; possibly he deemed it beneath the dignity of the life of a philosopher.

Yet the earliest and most amusing, if not most accurate of biographers thought otherwise. "It is not always," says Plutarch, "in the most distinguished exploits that men's virtues or vices may be best discerned; but frequently an action of small note, a short saying or a jest distinguishes a person's real character more than the greatest battles or the most important actions. As painters labour the likeness in the face, so must we be permitted to strike off the features of the soul, in order to give a real likeness to these great men*." Upon this principle has this inimitable writer left us a record of the lives of upwards of fifty warriors, legislators, and statesmen, investing them with an interest and a wisdom which will delight and instruct the last generations of mankind.

There may have been biographers who have carried their passion for detail and minute anecdote somewhat too far, but even in such cases we feel it is rather ungrateful to condemn them; and we might take the very extreme of this class, even Boswell himself, with all his faults, and almost challenge the world to produce another book of biography of equal interest with the *Life of Johnson*.

But betwixt Plutarch and Boswell there is an interval, almost as wide as between Auchinleck and Chæroneæ; and Mr. Stewart ought not, perhaps, strictly to have conformed himself to the example of either. Yet we cannot but regret that much that would interest us has been lost for ever; those many peculiarities, those lights and shadows which would have made us familiar with the man, and given a graphic reality to the portrait. Mr. Stewart was the personal friend of Adam Smith during many of his latter years; and for all that related to him previously, it would have been the easiest thing in the world to have collected information and anecdote in the society of Edinburgh. If it be one object, as it must be presumed of the biographer, to extend the fame of the person whose life he undertakes to record, surely it must be obvious how

* Plutarch—*Life of Alexander*.

much is lost in this respect by this partial mode of exhibiting him.

"The else unvalued circumstances in the lives of literary men" (says Mr. Mackenzie in his "Memoir of the Life of John Home") "acquire an interest with the reader, proportionate to that which the writings of the author have excited; and we are anxious to know every little occurrence which befel him, who was giving, at the period when these occurrences took place, the product of his mind to the public. We are anxious to know how the world treated a man who was labouring for its instruction or amusement, as well as the effect which his private circumstances had on his literary productions, or the complexion, as one may term it, which those productions borrowed from the incidents of his life. These considerations afford an apology for the narratives of the comparatively unimportant occupations which the world peruses with so much interest—they help that personification of an author which the reader of his work so naturally indulges; and if they sometimes put him right in his estimate of the influence of genius or feeling upon conduct, they serve at the same time as a moral lesson on the subject, and a mark as it were of the unexpected shores or islands, sometimes it may be rocks or quicksands, on the chart of life."

SECTION 2.—*From the birth of Dr. Smith till the publication of the "Theory of Moral Sentiments."*

ADAM SMITH was born at Kirkaldy, in Fifeshire, on the 5th of June, 1723. His father was comptroller of the customs at that place, and had in early life practised as a writer to the signet in Edinburgh. He had been for some years private secretary to the Earl of Loudon, when he received his appointment to the customs at Kirkaldy. His wife was the daughter of Mr. Douglas, of Stratherry; and Adam was the only issue of their marriage. His mother lived long enough to enjoy the celebrity of her son; but he had the misfortune never to have known the care and affection of his father, whose death took place a few months previous to the birth of his distinguished offspring. His constitution during infancy, we are informed, was weak and sickly, and required the tenderest solicitude of his surviving parent for the preservation of his life. It is remarkable that in this respect a nearly similar for-

tune should have attended two of the most remarkable men whom Scotland has produced. It was the fate of Hume to lose his father in his infancy, and to owe, like Smith, to a widowed mother, all the protection and care so requisite at that early period. The mother of our young philosopher was, by some persons, accused of over-indulging her son, but the indulgence of the parent was best vindicated by the growing temper and disposition of the child; and Mrs. Smith during her long life (which extended till within twelve years of the death of her son) had never occasion to reproach herself for any indiscreet kindness, but had the happiness to see her parental care acknowledged to the hour of her death, by every attention which filial affection could prompt.

An accident befel him when he was about three years of age, which, if it had not proved fatal to his life, might have strangely altered his future destiny, and might thus, perhaps, have influenced, in no small degree, the progress of political science in Europe. He had been on a visit to his uncle, Mr. Douglas of Stratherry; and as he was one day amusing himself at the door of the house, he was carried off by a party of gipsies. Happily he was very soon missed by his uncle, who having learned that a set of vagrants had recently passed that way, pursued and overtook them in Leslie Wood—with feelings with which it is easy to sympathize, even without reference to the importance of the life he had preserved.

When the period arrived at which it was deemed proper that he should be sent to school, he was placed under the care of Mr. David Miller, who then taught the school at Kirkaldy,—a person who enjoyed no inconsiderable reputation as a teacher in his day, and who had the fortune to educate, about the same period, a few men of greater eminence in after life than are frequently to be found registered in so obscure a seminary. With some of these Smith contracted an intimacy which lasted during their lives. We are not exactly informed of the time when he was placed under Mr. Miller's care, but we know that he remained with him till he attained his fourteenth year. His great love of books, even in those early years, attracted the notice of his schoolfellows, as did the extraordinary powers of his memory, and those habits of mental abstraction for which he was remarkable

throughout life. His love of reading was indulged and strengthened the more, owing to the weakness of his constitution, which prevented his joining in the more active pastimes of his companions. Their fondness for him was not lessened by habits which schoolboys in general might be apt to regard as unsocial, but it arose from the excellence of his temper, and the warm and generous feelings which distinguished him.

It is to be regretted that we know so little of the nature of his reading at this period of his life. That he was well grounded in the dead languages, and that the classic writers of Greece and Rome were favourite objects of his study whilst he was under the care of Mr. Miller, may safely be presumed. His works afford abundant evidence of the extent of his acquirements in this department of literature, a relish for which never deserted him in after life, even amidst the profound inquiries which occupied his attention while engaged in the composition of his greatest work. Had Dr. Smith, however, like Gibbon, become his own biographer, or like Johnson, had he had the fortune to leave behind him such a chronicler as Boswell, we might then have seen, perhaps in the earliest unprescribed studies of the recluse student at Kirkaldy, the first indications of that tendency of mind and mode of thinking which gave promise of the future author of the "Wealth of Nations."

In 1737, at the age of fourteen, he left Kirkaldy, and was removed to the University of Glasgow, where he had the happiness of studying under Dr. Francis Hutcheson, of whom he always spoke, as he has written, in terms of the highest admiration. The lectures of that distinguished professor may be fairly considered as having first directed his views to that branch of ethical philosophy so beautifully illustrated in the "Theory of Moral Sentiments," which he afterwards gave to the world, and in which he has equal merit in having confirmed what was right, and corrected what was wrong in the speculations of his eloquent tutor. It is said, however, that Mathematics and Natural Philosophy engaged the greater portion of his attention during his residence at Glasgow; but his "History of Astronomy" in the Posthumous Essays is the only one of his writings in which we discover much of the fruits of his acquaintance with those sciences. His illustrations are al-

most always drawn from history, poetry, and polite literature; and, though he prized the persons and the characters of mathematicians and natural philosophers, and has judged highly (perhaps partially) of the tendency of such studies upon the temper and morals of the individual*, it is quite clear that they were neither so congenial to his taste, nor did he estimate their importance to the interests of mankind as being in any respect equal to that of other branches of philosophy, and those more especially which he afterwards himself so largely illustrated and advanced. To these latter, therefore, to the history of mankind, to the moral, economical, and political phases which are presented in its progress, we may be assured, without any particular testimony, that his attention was very early directed, and for a long period of years in a great measure confined. But we have one fact that goes strikingly in proof of this, which is interesting on many accounts, and not the least so as pointing out the first and only book which we know to have been read by him about this period, and which must have been read from love alone, since it was read by stealth.

In 1740, after three years spent at Glasgow, he was removed to the university of Oxford, and entered at Baliol College as an exhibitioner on Snell's foundation. It would appear that shortly after his arrival there, from some cause or other he had given occasion to suspect that his private hours were not always devoted to such books as the discipline of Oxford prescribes to its students; and it was determined therefore by the heads of the college, with more of zeal than honour, that the young philosopher from the north should be taken by surprise in his chamber, in order to ascertain whether the nature of his studies was really orthodox or not. Unluckily, he was found reading the "Treatise of Human Nature," then recently published, and the discovery was of course followed by a severe reprimand and the forfeiture of the forbidden volume. Smith, at that time, knew perhaps nothing more of the book he was perusing than that it was the production of a young Scotchman—a work, which as the author of it said himself, "fell dead-born from the press," little known and a good deal decried, but recommended to Smith by the subject

* Vide Theory of Moral Sent., Part III., Ch. 2,

of which it treats, by his love of metaphysics, and the profound and original speculations which it contained; as inviting to the young and free inquirer as they were alarming to the heads of the university. It was not till some years after this that the immortal author of the work in question became known to his young disciple, and that that enduring friendship was cemented betwixt them, which both of them have taken pains to record—"a friendship on both sides founded on the admiration of genius and the love of simplicity," as Mr. Stewart has beautifully expressed it, and which, without biasing the judgment of Smith, must have exalted the pride and the pleasure which he felt, when years after this, he cited him in the "*Wealth of Nations*" in language which many have thought savoured rather of the warmth of friendship than the calmness of sober judgment, as *by far the most illustrious philosopher and historian of the present age*.*

When Smith was sent to Oxford, it had been the intention of his family that he should study for the Church of England. He remained seven years at that renowned seat of learning; but long before he left it, not finding the ecclesiastical profession suited to his taste, he had abandoned all such intention, and preferred the hopes of such small emolument as his literary attainments might procure for him in his own country, to the higher prospects which the prudence of his friends had pointed out. As there is every reason to admire the independence of mind which induced him to abandon those prospects, we can have none to regret it on any other ground, from the direction which was thus given to the studies and the labours of his future life. There is no doubt that had Dr. Smith voluntarily made the Church his profession, he would have adorned it by genius and learning, that the purity of his life would have added force to the precepts which it would have been his duty to inculcate as a Christian teacher. But this advantage would have been too dearly purchased. The Church would more easily find a substitute for Smith as one of its ministers, than the world might have found one like him, capable of unfolding for its instruction those laws equally divine in their origin and beneficent in their results when rightly apprehended, which regulate

the order and advance the moral and political condition of society. The mind of Smith, which found in such subjects a boundless field for his contemplations, might have been confined, and at length contracted, by the professional study of theological learning. The great truths of religion are as simple as they are sublime; and their simplicity renders useless much that human ingenuity can do, while their sublimity defies it. To know God, says Seneca, is to worship him. And much of this knowledge is attained by looking attentively upon the glories of his creation.

It is to be lamented that we know so little of the life of Smith during that part of it which was passed at Oxford. What he thought of that university, of its discipline and its studies, he told the world many years after in a memorable passage of the "*Wealth of Nations*," which has never been forgiven by the worshippers of Oxford, and by all those who are prone to consider it a crime to point out the defects of any ancient institution. Strange it may seem that there should always be a number of persons prone to such a course, seeing that the corruptions and abuses which are incident to establishments of this kind, like the diseases in the animal body, have a natural tendency to bring on decay, and that the best friend to such institutions, like the best physician, is he who first discovers the disorder—a discovery necessarily antecedent to the suggestion of the remedy. Yet there are few mistakes so common as this in the world, and few more fatal to its improvement. It is the error of preferring the means to the end, the mere instrument, an instrument often worn out, and sometimes become useless, to the excellent purposes it was designed to work. It may be proper to enlarge a little upon this topic, on account of the unjust prejudice that has been excited against Dr. Smith, in consequence of his animadversions upon Oxford, and is constantly excited for the worst purposes against men like him, whose enlightened and benevolent efforts for the improvement of public institutions, instead of gratitude, have often experienced calumny and opposition. If Smith censured the discipline, or rather the want of discipline, and the abandonment of duty in the tutors and professors of Oxford in his day, what possible motive

could he have that is reconcilable with the acknowledged qualities of the man, but a zeal, a warm and indignant zeal, it may be, in behalf of that learning and science which was going to ruin, by the neglect of those who were appointed for their conservation? Of course it is unnecessary to say that we refer not to Oxford as it now is; but if it has been reformed since the days of Smith, it has been reformed only, because some have been found bold and wise enough, like him and after him, to proclaim that it stood in need of such reformation. Far be it from us, and from every friend of learning, to abate that just veneration for the institutions of our country; those especially which have the promotion of science and of virtue for their object, which is really their due—due often to their antiquity—to the excellence of their founders—and to the long catalogue of illustrious men who have been bred under them, and whose wisdom and learning, whose virtue and heroism in after life, seem, by a very natural and pleasing illusion, to become identified with the places in which they were educated.

Of the seven years which Smith passed at Oxford little, indeed, has been recorded. We have scarcely an incident relating to his private life, and as little do we know respecting his intellectual habits. Mr. Stewart presumes that he cultivated with particular care, at this time, the study of languages;—a study for which it would seem he had an unusual fondness, and in which, at all events, he is known to have excelled. But Smith studied languages more as a philosopher than a scholar, as they served to throw light on the manners, the institutions, the modes of thought peculiar to different nations and ages. His knowledge of Greek was profound and accurate; and his taste and high admiration for the drama and literature of the Greeks, preserved to the latest period of his life, may be best traced to the studies and the society in which he mixed whilst at the university. Mr. Dalzell, the distinguished professor of Greek in the University of Edinburgh, has borne testimony to the extent and accuracy of Dr. Smith's acquaintance with that noble language, as often displayed in conversation with him on some of the nicest minutiae of grammatical criticism. He was accustomed at this time to exercise himself in translation

from various languages, chiefly French; and always spoke of it as useful for the acquisition of the art of composition, and for improvement in style. Gibbon has recommended the same practice in his own *Memoirs*, and a mode of study, we may venture to say, which was pursued and praised by two such distinguished writers, is well worth the attention of all who cultivate literature.

Upon quitting Oxford, Smith returned to Kirkcaldy, where he continued to reside with his mother for two years, with the most ardent application to study. In 1748 he removed to Edinburgh, and there commenced his connexion and friendship with many of the distinguished men who then adorned that city; and composed a society which included within its range an extent and variety of accomplishments, and a depth and solidity of philosophy and of learning, not easily equalled in any other, at any period of modern Europe. Among its members we find a vast portion of the names familiar to us, from having enriched the literature of our country in various departments, about the middle of the last century. Those of Hume and Robertson, of Blair, of Ferguson, of Lord Kames and John Home, are known to every reader; but there were others not less accomplished though less known to posterity, whose genius and talents added lustre, even to so brilliant an assemblage of men; Lord Elibank, Sir Gilbert Elliot, Lord Loughborough, Sir William Pulteney, Lord Monboddo, Dr. Logan; these, and many others, we find enumerated in the "Select Society," which was formed in Edinburgh about that period; the list of which Mr. Stewart has preserved*. At this time commenced his memorable friendship with David Hume, the philosopher who had led the way into those very regions of moral and political inquiry, where Smith was destined to follow, guided chiefly, as he always confessed, and as was admitted by his admirers, by that light which had been shed upon them by the most subtle intellect, perhaps, which ancient or modern Europe has produced†.

It was not long after his settlement in Edinburgh, that the friendly patronage of Lord Kames induced Smith to com-

* Appendix to the Life of Robertson.

† It is hardly necessary to remind the reader that, in the panegyrics pronounced upon Hume, we refer merely to his celebrated writings upon moral and political science, and not to those upon religion.

mence a course of Lectures on Rhetoric and Belles Lettres, which he continued for a considerable time; until the high reputation which he had earned, seconded by the zeal of his friends, procured for him, in 1751, the professorship of Logic in the university of Glasgow. In 1752, upon the death of Mr. Thomas Craigie, he was advanced to the chair of Moral Philosophy in the same University; an office which he continued to fill for thirteen years;—a period which he was accustomed to look back upon, as the most useful and happy of his life. “It was indeed a situation,” says his biographer, “in which he was eminently fitted to excel, and in which the daily labours of his profession were constantly recalling his attention to his favourite pursuits, and familiarising his mind to those important speculations he was afterwards to communicate to the world.”

It is greatly to be regretted, that no part of his lectures whilst at Glasgow, has been preserved; but the following brief and very interesting account of them was furnished by one of Dr. Smith's pupils, who afterward became one of his warmest and latest friends. There is no necessity to apologise for presenting it to our readers, seeing that we cannot better supply the vacuum that would otherwise be left, owing to the very scanty materials which remain for a life of this distinguished man. “In the professorship of logic,” says one of his students, “to which Dr. Smith was appointed on his first introduction to this university, he soon saw the necessity of departing widely from the plan that had been followed by his predecessors; and of directing the attention of his pupils to studies of a more interesting and useful nature than the logic and metaphysics of the schools. Accordingly after exhibiting a general view of the powers of the mind, and explaining so much of the ancient logic as was requisite to gratify curiosity, with respect to an artificial method of reasoning, which had once occupied the universal attention of the learned, he dedicated the rest of his time to the delivery of a system of Rhetoric and Belles Lettres. The best method of explaining and illustrating the various powers of the human mind, the most useful part of metaphysics, arises from an examination of the several ways of communicating our thoughts by speech, and from an attention to the principles of those literary composi-

tions, which contribute to persuasion or entertainment. The first part of these lectures, in point of composition, was highly finished; and the whole discovered strong marks of taste and original genius. His course of lectures on moral philosophy was divided into four parts. The first contained natural theology, in which he considered the proofs of the being and attributes of God, and those principles of the human mind on which religion is founded. The second comprehended ethics strictly so called; in the third part, he treated at more length of that branch of morality which relates to *justice*. Upon this subject he endeavoured to trace the gradual progress of jurisprudence, both public and private, from the rudest to the most refined ages, and to point out the effects of those arts, which contribute to subsistence, and to the accumulation of property, in producing corresponding improvements in law and government. In the last part of his lectures, he examined those political regulations, founded not upon the principle of justice, but of expediency, and which are calculated to increase the riches, the power, and the prosperity of a state: under this view he considered the political institutions relating to commerce, to finances to ecclesiastical and military establishments. In delivering his lectures, he trusted almost entirely to extemporary elocution. His manner was plain and unaffected, and as he seemed to be always interested in his subject, he never failed to interest his hearers. Each discourse consisted of several distinct propositions, which he endeavoured to prove and illustrate. In his attempts to explain them, he often appeared at first not to be sufficiently possessed of the subject, and spoke with some hesitation: as he advanced, the matter seemed to crowd upon him, his manner became warm and animated, and his expression easy and fluent. In points of controversy, it was discernible that he conceived an opposition to be made to his opinions, and that he was led to support them with greater energy and vehemence. By the fulness and variety of his illustrations the subject swelled in his hands, and acquired a dimension, which, without a repetition of the same views, was calculated to seize the attention of his audience, and to afford them pleasure and instruction in following the same object through all the diversity

of shades and aspects in which it was presented, and afterwards in tracing it backwards to that original proposition or general truth from which this beautiful train of speculation had proceeded. His reputation as a professor was raised very high; and a multitude of students from a great distance resorted to the University merely upon his account. Those branches of science which he taught became fashionable at this place, and his opinions were the chief topics of discussion in clubs and literary societies. Even the peculiarities in his pronunciation, or manner of speaking, became frequently the objects of imitation."

In the year 1755, a few of the eminent men then at the head of literature in Scotland had established a journal under the title of the "Edinburgh Review;" a title rendered familiar to the readers of the present day by the celebrity of the literary periodical journal under that name, which was established in the same city about half a century later. All that we learn of the plan and object of this design must be gathered from the only two numbers which were published of it. Smith, as is now well known, was a contributor, and, amongst other papers, was the author of the "Review of Dr. Johnson's Dictionary," then recently published, and of a very interesting letter addressed to the Editor, on the state of literature on the Continent, especially that of France. To the curious in literary relics, even these papers will be valuable, as appertaining to so celebrated a man, and the first of the productions of his genius which were committed to the public. In other respects it is perhaps unnecessary to say, that they can add nothing to the fame of the writer. Dr. Robertson was also a contributor; Mr. Hume was not; and we are indebted to Mr. Mackenzie for an amusing anecdote accounting for the omission. Such, we are told, was the extreme artlessness of his character, that his friends feared from it the discovery of their secret;—as they also feared that their criticisms would be disarmed of all their force, from the extreme gentleness of his nature, which could not tolerate even the exercise of literary warfare. The Review immediately on its appearance had attracted, as might have been expected, considerable notice; and Mr. Hume was often expressing his astonishment amongst his friends, that a production of

so much talent should be going forward in the city in which he lived, and that he, connected as he was with every literary character of any distinction in it, should know nothing of its authors. It was determined at length that the secret should be communicated to him on a certain day, which was to be agreed upon, provided he would swear to preserve it. The day was fixed,—it was at a dinner where they were all expected to meet; the Review was mentioned;—Hume expressed, as he had done before, his surprise and curiosity on the subject, when he was told by one of the company, that provided he would take his oath not to divulge it, the secret should be communicated to him. "But how is the oath to be administered," said David, with his usual pleasantry, "to a man accused of so much scepticism as I am? you would not take my Bible oath, but I will swear by the *το καλον*, and the *το περιον**, never to reveal your secret." Unfortunately, either from want of perseverance in those connected with it, or of encouragement in the public to any undertaking of the kind, the Review was shortly after abandoned, and the distinguished partisan whom they had thus enlisted, had no opportunity of rendering his service in its support.

The Select Society, which we have before mentioned, was another association of which Smith was a member; formed for the purpose of philosophical inquiry, and the cultivation of the art of public speaking. It met for the first time in the Advocates' Library in May 1754, and ever after during the sitting of the Court of Session, every Friday evening. The most distinguished in the Society as speakers were Sir Gilbert Elliot, Lord Elbank, and Dr. Robertson. "David Hume and Adam Smith," says the memorial, "never opened their lips;" an intimation which may occasion some surprise, when it is considered that the two men thus remarked for being mute, were, unquestionably, the most original and profound thinkers in the whole of that gifted assemblage, as well as the most elegant, and (in Mr. Hume's case) the most fluent of writers, and possessing withal ample extent and variety of learning and knowledge. But however able and distinguished in the chair of moral philosophy at Glasgow, and whatever talents he was known to possess in the circle of his friends, it

* The beautiful and the fitting.

was not until the year 1759 that Dr. Smith gave evidence to the world of those talents, and laid the foundation of his fame, by the publication of his first great work, the "Theory of Moral Sentiments," in which he may be supposed to embody the result of a part of his professional labours in the University upon one of the most interesting problems in the whole range of philosophical inquiry.

There are few things more pleasing with respect to a character or a composition of established genius, when we contemplate them at a distance, than to ascertain what were the opinions entertained of them by their contemporaries. Fortunately we possess the most satisfactory and delightful of all evidence upon this subject concerning the work before us; but before we enter upon any remarks on this beautiful production, we shall present our readers with a letter from Mr. Hume, addressed to Dr. Smith, immediately after its publication. It would be an injury to withhold this effusion of friendship, which possesses the highest claim upon our attention, from its connexion with one of the most important epochs in the life of the eminent person of whom we are writing. Mr. Hume happened to be in London during the publication of the "Theory of Moral Sentiments," mixing in society most distinguished for rank, taste, and learning, and always anxious, with the generosity and affection which characterized him, to extend the fame and glory of his friend. If the work had been lost to the world, and we had possessed no other evidence of its merits, and of the admiration excited by its appearance, we might form a tolerable estimate of both from the contents of the following letter:—

"London, April 12th, 1759.

"MY DEAR SMITH,

"I give you thanks for the agreeable present of your 'Theory.' Wedderburn and I made presents of our copies to such of our acquaintances as we thought good judges and proper to spread the reputation of the book. I sent one to the Duke of Argyle, to Lord Lyttleton, Horace Walpole, Soame Jenyns, and Burke, an Irish gentleman who lately wrote a very pretty treatise on the Sublime. Millar desired my permission to send one in your name to Dr. Warburton. I have delayed writing to you, till I could tell you something of

the success of the book, and could prognosticate with some probability, whether it should be finally damned to oblivion, or be registered in the temple of immortality. Though it has been published only a few weeks, I think there appear already such strong symptoms that I can almost venture to foretel its fate. In short, it is this — But I have been interrupted by a foolish impertinent visit of one who has lately come from Scotland. He tells me that the University of Glasgow intend to declare Rouet's office vacant upon his going abroad with Lord Hope. I question not but you will have our friend Ferguson in your eye, in case another project for procuring him a place in the University of Edinburgh should fail. Ferguson has very much polished and improved his treatise on 'Refinement,'* and with some amendments it will make an admirable book, and discovers an elegant and a singular genius. The 'Epigoniad' I hope will do, but it will be somewhat up-hill work. As I doubt not but you consult the reviews sometimes, at present, you will see in the 'Critical Review' a letter upon that poem, and I desire you to employ your conjectures in finding out the author—let me see a sample of your skill in knowing hands by guessing at the person. I am afraid of Lord Kames's 'Law Tracts;' a man might as well think of making a fine sauce by a mixture of wormwood and aloes, as an agreeable composition by joining metaphysics and Scotch law. However, the book I believe has merit, though few people will take the pains of diving into it.— But to return to your book, and its success in this town, I must tell you — A plague of interruptions! I ordered myself to be denied, and yet here is one that has broken in upon me again. He is a man of letters, and we have had a good deal of literary conversation. You told me that you were curious of literary anecdotes; and therefore I shall inform you of a few that have come to my knowledge. I believe I have mentioned to you already Helvetius's book 'De l'Esprit.' It is worth your reading, not for its philosophy, which I do not highly value, but for its agreeable composition†. I had a letter from him a few

* The same which he afterwards published under the title of "An Essay on the History of Civil Society."

† This passage is of itself tolerably conclusive as to the vulgar error of confounding Mr. Hume's philosophy with that of the French materialists of the last century and their English disciples in this.— Vide page 10, and note, p. 13.

days ago, wherein he tells me that my name was much oftener in the manuscript, but that the censor of books at Paris obliged him to strike it out. Voltaire has lately published a small work called 'Candide, ou l'Optimisme.' I shall give you a detail of it. But what is all this to my book? say you. My dear Mr. Smith, have patience; compose yourself to tranquillity: shew yourself a philosopher in practice as well as profession: think on the emptiness and rashness and futility of the common judgments of men; how little they are regulated by reason in any subject, much more in philosophical subjects, which so far exceed the comprehension of the vulgar.

— Non si quid turbida Roma
Elevet, accedas: examenve improbum in illa
Castiges trutina: nec te quæsieris extra.

A wise man's kingdom is his own breast; or if he ever looks farther it will only be to the judgment of a select few who are free from prejudice, and capable of examining his work. Nothing indeed can be a stronger presumption of falsehood than the approbation of the multitude; and Phocion, you know, always suspected himself of some blunder when he was attended with the applauses of the populace. Supposing, therefore, that you have duly prepared yourself for the worst of all these reflections, I proceed to tell you the melancholy news, that your book has been very unfortunate; for the public seem disposed to applaud it extremely. It was looked for by the foolish people with some impatience, and the mob of literati are beginning already to be very loud in its praises. Three bishops called yesterday at Millar's shop, in order to buy copies, and to ask questions about the author. The Bishop of Peterborough said he had passed the evening in a company where he heard it extolled above all books in the world. The Duke of Argyle is more decisive than he uses to be in its favour; I suppose he either considers it as an exotic, or thinks the author will be serviceable to him in the Glasgow elections. Lord Lyttleton says that Robertson, and Smith, and Bower, are the glories of English literature. Oswald protests he does not know whether he has reaped more instruction or entertainment from it. But you may easily judge what reliance can be put on his judgment, who has been engaged all his life in public business, and who never sees any faults in his friends. Millar exults and brags

that two-thirds of the edition are already sold, and that he is now sure of success. You see what a son of earth that is, to value books only by the profit they may bring him;—in that view I believe it may prove a very good book.

"Charles Townsend, who passes for the cleverest fellow in England, is so taken with the performance, that he said to Oswald, he would put the Duke of Buccleugh under the author's care, and would make it worth his while to accept of that charge. As soon as I heard this, I called on him twice, with a view of talking with him about the matter, and of convincing him of the propriety of sending that young nobleman to Glasgow; for I could not hope that he could offer you any terms which would tempt you to renounce your professorship: but I missed him. Mr. Townsend passes for being a little uncertain in his resolutions; so perhaps you need not build much on this sally.

"In recompense for so many mortifying things, which nothing but truth could have extorted from me, and which I could easily have multiplied to a greater number, I doubt not but you are so good a Christian as to return good for evil, and to flatter my vanity by telling me that all the godly in Scotland abuse me for my account of John Knox and the Reformation. I suppose you are glad to see my paper end, and that I am obliged to conclude with

"Your humble servant,
"DAVID HUME."

SECTION 3.—*The "Theory of Moral Sentiments."*

THE question which Dr. Smith undertook to investigate in the "Theory of Moral Sentiments," however little regarded in later times, had evidently attracted a very considerable share of attention in the early part of the last century. At the period when he applied himself to that investigation, it had been previously illustrated by some of the most ingenious and profound writers in our language. The inquiry into the nature and origin of virtue, had been treated of by the elegant and sublime Lord Shaftesbury, the logical and acute Bishop Butler, the eloquent and ingenious Dr. Hutcheson, and by Mr. Hume himself, in his celebrated treatise entitled "An Inquiry concerning the Principles of Morals."

If it be true, as Mr. Stewart has

said, and as Smith himself always declared, that he owed more to the "Political discourses" of Mr. Hume, in the "Wealth of Nations," than to any other work which had appeared prior to his time, it cannot be doubted that in the work before us he was as much indebted to the principles unfolded in Mr. Hume's "Inquiry." In their results, the difference seems only to be this;—that, whereas Hume had resolved our moral perceptions into a general and social affection, Smith had taken pains to trace them, in all cases, to an immediate sympathy with the individual acting or acted upon. Upon nearly all collateral and fundamental points they were perfectly agreed. They were equally decided in considering the question in the outset as one of fact, to be determined by the invariable nature and recorded sentiments of mankind in all ages—not as one in which it is competent to philosophers to establish a standard of virtue, as was attempted by Cudworth and Clarke, without reference to those sentiments, upon some preconceived dogma of immutable right, and the eternal fitness of things; or upon any deduction of a remote and contingent utility, according to the system of Paley and Godwin, and others of the same school. Mr. Hume had dismissed, with the contempt it deserved, the doctrine of those who had denied the reality of any distinction in morals. He had shewn by the most unanswerable reasoning that their origin was to be found in sentiment, not in the subtleties of abstract ratiocination; and has overthrown for ever, in the opinion of all who are capable of reasoning on such subjects, the selfish system of ethics, revived by Hobbes in the seventeenth century, who had borrowed it from the school of Epicurus, and who bequeathed it as a theme of everlasting cavil and epigrammatic paradox to that of Helvetius and Rochefoucauld, and their followers, in later days. Dr. Smith, though he makes little direct reference to this system founded on the absolute selfishness of man, may be considered as having stated and pronounced upon the question in the opening passage of his work:—"How selfish soever man may be supposed," says he, "there are evidently some principles in his nature which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it except the pleasure of seeing it; of this kind is pity or

compassion, words appropriated to signify our fellow feeling with the sorrow of others." "Sympathy," he adds, "though its meaning was originally the same, may now, however, be made use of to denote our fellow feeling with any passion whatever." And upon this principle he erects his system.

It is not our intention, nor is it, indeed, within the limits of the present memoir, to attempt an analysis of this very beautiful production. A brief outline of the leading principles on which it rests may be stated as follows:—

Upon our disposition to sympathize with the passions and actions of other men, is founded our sense of propriety or impropriety—upon that of sympathizing with the motives which excite or produce those actions and passions, is founded our sense of merit or demerit; the disposition which prompts us to gratitude or resentment, to reward or to punish the agent. An application of the sentiments thus acquired by observation of the actions and character of others, to the affections and conduct of ourselves in the various relations of life in which we are called upon to act, to judge, or to suffer, gives rise to a new perception; namely, the sense of duty, the natural and final result of the joint operation of those faculties of the heart and the understanding, with which man was endowed by his Maker, and not a factitious principle of expediency, which it was left for him to deduce from the remote and contingent consequences of the actions themselves.

Of the questions which are discussed in the science of morals, the two principal are these:—What is the characteristic property of virtue or merit? And by what faculty or power are we made cognizant of its existence? In Hume's *Inquiry* upon this interesting subject, he involved the solution of the second question in investigating the first. Smith seems to have pursued a different course, and to have blended the first question in his discussion of the second. We have always considered that the scope of Mr. Hume's reasoning upon this point has been strangely misconceived. In shewing, as he did conclusively to our minds, that utility was an invariable attribute of all virtue, his argument was limited, and he obviously meant it to be limited to the simple establishment of the *fact*; to proving, that by the constitution of man, and the natural economy of his

moral sentiments, there was no disposition of the mind, no action attended with the general approbation of mankind, which would not be found in its results beneficial to the species. He proved that nature had so constituted us, that by an involuntary sympathy we are formed to approve of these qualities even when we can have no personal interest in the case—nay, even when our personal interest may be opposed to the exercise of them. The sentiment or emotion thus excited, is the effect of a beneficent wisdom in the moral economy of man; an economy which proves the divine origin and government of the world even more cogently than the most exquisite of the merely physical arrangements so often adduced for the purpose. But having shewn this to be the fact, it never could be intended, by that accurate and profound thinker, to draw or to suggest the inference, that in pursuit of any imagined utility, any distant and general advantage which might present itself to his narrow capacity, it was competent for man to tamper with the order of God, and in neglect of the active impulses, the affections, and even the prejudices of his nature, which, by the direction of his wisdom, were made subservient to the most admirable ends—to erect a new *standard* of morals, and pretend to shew that that mode of action might be *expedient*, which his heart told him could never be *right*. But whatever doubts may exist as to the meaning of Hume, there can be none with regard to that of Dr. Smith upon this vital question; and it is in the admirable and really philosophical spirit which pervades and animates every part of his system, and this more especially, that we conceive the great excellence of his work to consist; for it may assuredly be said of it, that if it does not furnish the true “Theory of Moral Sentiments,” there can be no hesitation in admitting that its author has, at least, pointed out the way in which that theory must be sought. Smith saw, and strictly adhered to the distinction, as Mr. Stewart has well remarked*, which has been too little adverted to by ethical inquirers—the distinction betwixt the final and the efficient cause in all our moral determinations. The chapter in which this fundamental point is more directly enforced must be

considered as one of the finest portions of his book, exhibiting a specimen, perhaps, of the most refined and philosophical disquisition which human language has ever embodied. It lies so directly in our way, in the few observations we think it necessary to make upon this production of Dr. Smith;—it lies so much at the root of the main difficulty involved in the inquiry concerning the foundation of morals; the most interesting problem, perhaps, in metaphysics; it comes so strongly recommended in consequence to all who can take any interest in such discussions,—that we shall cite a part of it in this place, happy if, by accident, we should be the means in this way of introducing one of our readers to an acquaintance with the work in which it is to be found.

After having traced the growth of the emotions which arise from the spectacle of vice as well as of virtue, and having shewn that the resentment which we feel in the one case is the counterpart of the gratitude we feel in the other; and that it is this emotion which, constituting our immediate sense of demerit, prompts us to inflict the punishment which the well-being of society requires should be inflicted; and that the Author of Nature did not leave it to the slow and uncertain deductions of our reason to find out the means of attaining this end, but endowed us with an instinctive feeling of approbation of the very application most proper to attain it,—he proceeds to consider the “utility of this constitution of nature.” “In every part of the universe,” he says*, “we observe means adjusted with the nicest artifice to the end which they are intended to produce; and in the mechanism of a plant or animal body, admire how everything is contrived for advancing the two great purposes of nature, the support of the individual, and the propagation of the species. But in these, and in all such objects, we still distinguish the efficient from the final cause of their several motions and organizations. The digestion of the food, the circulation of the blood, and the secretion of the several juices which are drawn from it, are operations all of them necessary for the great purposes of animal life; yet we never endeavour to account for them from those purposes as from their efficient causes, nor imagine that the blood circulates, or that the food

* Philos. Hum. Mind, vol. ii.

* Theory of Moral Sent. vol. i. part ii. sect. 2.

digests of its own accord, and with a view or intention to the purposes of circulation or digestion. The wheels of the watch are all admirably adjusted to the end for which it was made—the pointing of the hour: all their various motions conspire, in the nicest manner, to produce this effect. If they were endowed with a desire and intention to produce it, they could not do it better: yet we never ascribe any such desire or intention to them, but to the watchmaker; and we know that they are put into motion by a spring which intends the effect it produces as little as they do. But though, in accounting for the operation of bodies, we never fail to distinguish in this manner 'the efficient from the final cause,—in accounting for those of the mind, we are very apt to confound these two different things with one another. When by natural principles we are led to advance those ends which a refined and enlightened reason would recommend to us, we are very apt to impute to that reason, as to their efficient cause, the sentiments and actions by which we advance those ends, and to imagine that to be the wisdom of man, which is in reality the wisdom of God. Upon a superficial view, this cause seems sufficient to produce the effects which are ascribed to it, and the system of human nature seems to be more simple and agreeable when all its different operations are in this manner deduced from a single principle." After distinguishing in this way the efficient from the final cause of our moral impressions, our first perceptions of right and wrong,—after shewing that though it is absolutely necessary for the subsistence of society that the laws of justice should be observed, yet that it is not from a consideration of this necessity that we originally approve of their enforcement (though he admits that our regard for them may often be confirmed, and may sometimes require to be confirmed by such consideration),—he proceeds, "We frequently hear the young and the licentious ridiculing the most sacred rules of morality, and professing, sometimes from the corruption, but more frequently from the vanity of their hearts, the most abominable maxims of conduct. Our indignation rouses, and we are eager to refute and expose such detestable principles. But, though it is their intrinsic hatefulness and detestableness which originally inflame us against them, we are unwilling to assign

this as the sole reason why we condemn them, or to pretend that it is merely because we ourselves hate and detest them. The reason, we think, would not appear to be conclusive. Yet why should it not; if we hate and detest them, because they are the natural and proper objects of hatred and detestation? But when we are asked, why we should not act in such or such a manner, the very question seems to suppose, that to those who ask it this manner of acting does not appear to be for its own sake the natural and proper object of these sentiments. We must shew therefore, that it ought to be so for the sake of something else; and the consideration which first occurs to us is the disorder and confusion of society which would result from the universal prevalence of such practices. We seldom fail therefore to insist upon this topic. That it is not a regard, however, to the preservation of society, which originally interests us in the punishment of crimes committed against individuals, may be demonstrated by many obvious considerations. All men, even the most stupid and unthinking, abhor perfidy and injustice, and delight to see them punished. But few men have reflected upon the necessity of justice to the existence of society, however obvious that necessity may appear. The concern which we take in the fortune and happiness of individuals does not, in common cases, arise from that which we take in the fortune and happiness of society. We are no more concerned for the destruction or loss of a single man, because the man is a member or part of society, and because we should be concerned for the destruction of society, than we are concerned for the loss of a single guinea, because this guinea is part of a thousand guineas, and because we should be concerned for the loss of the whole sum. In neither case does our regard for the individuals arise from our regard for the multitude; but in both cases our regard for the multitude is compounded, and made up of the particular regards which we feel for the different individuals of which it is composed. As when a small sum is unjustly taken from us, we do not so much prosecute the injury from a regard to the preservation of our whole fortune as from a regard to that particular sum which we have lost; so when a single man is injured or destroyed, we demand the punishment of the wrong that has been done to him, not so much from a

concern for the "general interest of society, as from a concern for that very individual who has been injured."

In a subsequent part of his work, wherein he treats of the "Influence of fortune upon our Moral Sentiments," and shews that, though it is the intention or affection of the heart, the propriety or impropriety, the beneficence or hurtfulness of the design that all praise or blame which can be bestowed upon an action must ultimately belong; yet, nevertheless, the result of those actions, the actual consequences which often proceed from them, do materially affect our sentiments:—He traces, in the same admirable spirit, the final cause of this inconsistency in our judgments; and remarks that—"that necessary rule of justice, that men in this life are accountable for their actions only, not for their designs or intentions, is founded upon this salutary and useful irregularity in human sentiments concerning merit and demerit, which appears at first sight so absurd and unaccountable. But," he concludes, "every part of nature, when attentively surveyed, equally demonstrates the providential care of its Author; and we may admire the wisdom and the goodness of God even in the weakness and the folly of men."

We have the greater pleasure in citing these passages, because we think that we may read in them the best refutation of that theory of expediency, which nothing but the reputation of Dr. Paley could ever have recommended to the world*—a theory which Mr. Stewart has characterised in a strain of indignant eloquence, that well became him on such a topic, as one which, "absolving men from the obligations imposed upon them by the moral constitution of human nature, abandons every individual to the guidance of his own narrow views concerning the complicated interests of society†."

It may not perhaps be unworthy of observation, before we close these few remarks upon the "Theory of Moral Sen-

timents," that the same principle of sympathy as a source of morals, from which Smith has deduced his system, appears to have been referred to by Polybius, in a remarkable passage of his history, for the same purpose. It is rather long for a quotation; but as it is curious in itself, and as Polybius is not a writer in every one's hands, we shall transcribe part of it in a note below; when possibly it may appear, after all, that the coincidence is rather in expression than in substance, and that it applies rather more strikingly to the doctrine of *sympathy with utility*, (the theory of Hume) than to that of sympathy as unfolded by Smith*.

SECTION 4.—*From the publication of the "Theory of Moral Sentiments" to that of the "Wealth of Nations."*

WE have seen, from the letter which Mr. Hume addressed to our author, something of the impression which was produced by the publication of his first great work. We shall shortly perceive that the hope therein expressed, that it might lead to an interesting connexion with the Duke of Buccleugh was not idly formed. In the meantime, however, it made no change in the life and habits of Dr. Smith. He continued his professorship in the University of Glasgow for a period of four years after this, directing his attention, and that of his students, somewhat less to that department of ethics, of which he had presented to the world his views, and treating more particularly of the subjects which come within the range of jurisprudence, and political philosophy. Of the long and profound attention he had devoted to this latter branch of moral science, he has bequeathed an imperishable monument to the world in

* "For man, who among all the various kinds of animals is alone endowed with the faculty of reason, cannot, like the rest, pass over such actions (ingratitude and injustice) with indifference; but reflecting on what he sees, and comparing the future with the present, will not fail to express his indignation at this injurious treatment, to which, as he foresees, he may at some time be exposed. Thus it is certain that all men must be shocked by such ingratitude through sympathy with the resentment of their neighbour, and from an apprehension also that the case may be their own. And from hence arises in the mind of man, a certain sense of the nature, and force of duty, in which consists both the beginning and the end of justice; and thus it is that the people begin to discern the nature of things, honourable or base, and in what consists the difference between them; and to perceive that the former, on account of the advantage that attends them, are fit to be admired and imitated, and the latter to be detested and avoided."—Polybius, Hist., Book vi, Ex. 1, Ch. i. Hampton's Translation.

* It may be allowed us to state in a few words what we have always considered to be the wide difference upon this great point, betwixt the doctrine of Mr. Hume and that of Dr. Paley, which it is surprising to see so often confounded. Hume proved from the phenomena of human nature as a fact, that whatever in moral conduct was intrinsically right, was useful. Paley laid it down as a rule, that whatever was expedient, was right; and thus converted a position of undeniable truth and beauty into an hypothesis full of fallacy, as the solution of a problem pregnant with evil in its consequences, when considered as a precept.

† Philos. Hum. Mind, vol. ii. Ch. 4, Sect. 6.

his "Wealth of Nations." His views upon the theory of jurisprudence, except inasmuch as he has embodied some of its important principles in that work, were confined to his lectures; though it is clear from an intimation conveyed in the closing paragraph of the "Moral Sentiments," and still more so from the advertisement he prefixed to the last edition of that work, written only a few months before his death, that it was a subject which, during the whole of his life, he had deeply meditated, and upon which he had always designed to communicate his labours to the public, if the engagements with which he was occupied during the latter period of it had not interfered to prevent him.

For himself, Dr. Smith has undoubtedly done enough, and so far as regards his own interest and his fame, it would be idle to indulge in regrets. For the world however, and for the interests of science, perhaps a greater loss has been rarely sustained than in the unfortunate circumstances, whatever they were, which concurred to deprive it of this most valuable portion of his labours. The enlarged views he had evidently formed of the objects and principles of legislation; the glimpses which we occasionally catch in his other writings of the spirit in which he was accustomed to contemplate such subjects; the pure and lofty sources to which he was accustomed to refer for those principles; all assure us of the invaluable addition which would have been made to this department of philosophy, had it been illustrated by his pen.

From this, however, and from his academical labours generally, he was withdrawn in the year 1763, by an invitation to accompany the Duke of Buccleugh on his travels; an appointment which was principally recommended to him at the time, by the desire which he had conceived of visiting the continent. The proposal, which was made to him through Mr. Charles Townsend, was liberal in the extreme; as might be expected to be made to such a man, to induce him to quit the scene of his honourable and useful labours, the society of his friends, and those studious delights, known only to the pure and devoted lovers of truth, which constitute the highest charm of human existence.

It is well known that, whatever pleasure Smith might derive from his tour, or whatever advantage from his connexion with the noble family of Buc-

cleugh, the separation from the university of Glasgow was a source to him of very heartfelt regret. An interesting and characteristic anecdote has been recorded of him, relative to his resignation of his duty as professor there, which is well worth preserving.

It was at the latter end of his course of lectures, that it became necessary for him to take his departure, and it was well ascertained that he had been at exceeding pains to provide, in a friend, a very competent successor for that part of the course which yet remained unfinished. He had suffered the greatest possible anxiety upon this point, and had done everything that might satisfy the most scrupulous of his friends and his pupils. This, however, did not satisfy the conscientious delicacy of Dr. Smith. He was of course aware of the high estimation in which he was held in the university, and the just value which was put upon his lectures. The day at length arrived when he was to address the students of his class for the last time, and it was a moment deeply affecting to both parties. He took leave of them in a tone of affection and regret, which enlivened their mutual sorrow; and when they were about to depart, he called them severally to his chair, and tendered to each of them, carefully folded in paper, the amount of the fee which he had received for the whole course of his lectures, notwithstanding so small a portion of it only remained unfinished. This was of course refused resolutely, as by acclamation; the professor, however, persisted in his endeavour, assuring them that he should not be satisfied otherwise, and that he should quit them under the impression of having failed in his duty, and of having wronged them, if they did not take back the fee for the entire course of lectures, which circumstances prevented him from completing. It was in vain that they assured him how far they were overpaid by the smallest portion of his labour bestowed upon them for the trifling emolument he derived; how real a wrong they should be committing to consent to such a proposal, and, in short, their firm determination by no means to listen to it. The professor was sensibly touched by their generous avowal, but he was not to be moved from his purpose. When they were at last on the point of quitting the lecture-room, he seized hold of the foremost of the students, and

absolutely forced the money into his hands, exclaiming, with his accustomed ardour, "Nay, gentlemen, I will not suffer this; it is a matter of conscience with me, and I must have my way;" and in this manner seeing him so deeply concerned in his object, they were obliged to submit; and thus to terminate a struggle of very unusual occurrence, equally honourable to the delicacy and generosity of the professor, and the attachment of his pupils.

It may safely be said, without disparagement to the many eminent successors of Dr. Smith, that his removal from the chair of moral philosophy was perhaps the greatest loss which the University of Glasgow has sustained. Of his merits and his method as a lecturer, we have presented our readers with an interesting memorial in the last section; but there is a circumstance related of him which may still better serve to evince the pains and sagacity which he exerted in the performance of his duty, and may suggest a standing and instructive lesson to both public and private teachers in all times and places. It is said that in the delivery of his daily lectures, his observation had been drawn, in an especial manner, to a certain student of his class, whose general habit of close and riveted attention to what was going on, became a mark or indication to the professor of the degree in which he succeeded in the development and expression of his subject—that he was accustomed to fix his eye upon the student in question, and as long as he found that he retained his hold of his attention, he felt satisfied; but whenever he remarked any relaxation in his manner, whether in the wandering expression of his countenance, or the position of his body, which seemed to indicate a diminishing interest in the lecture—"I took this as a valuable admonition," he used to say; "I was sure that there was something wanting either of connection in my reasoning or of sufficient fulness and perspicuity in my exposition, and I immediately paused. I recapitulated what I had been saying—I explained—I re-argued—I endeavoured further to illustrate my propositions, and I never felt quite satisfied that I was going on right, until I had regained complete hold of my monitor, till I saw by the resumption of his usual manner and gaze that I possessed the whole of his attention."

Having disengaged himself as well as

he could from the ties that bound him to Glasgow, Smith quitted that city in January, 1764, and joined the Duke of Buccleugh in London, where they remained together a couple of months. In March they set out on their route to Paris, and had the fortune to be joined at Dover by Sir James Macdonald, who accompanied them as far as the French capital, where they parted;—Sir James on his way to Italy, where he died within two years after, in the twenty-fifth year of his age. Were there no other testimony to the merit of this accomplished person, it would be sufficient to shew that he enjoyed in so high a degree the esteem and admiration of two such men as Dr. Smith and Mr. Hume; and a letter which the latter addressed to Smith, on the occasion of his death, contains strong evidence of this—"Were you and I together," says he, "we should shed tears at present for the death of poor Sir James Macdonald: we could not possibly have suffered a greater loss than in that valuable young man."

It was about the same time when Smith set out for the continent with the Duke of Buccleugh, that his friend Hume had been invited to join the embassy of the Earl of Hertford at Paris. Smith remained in that city only a few days; but before he left it we should mention that he addressed the rector of the University of Glasgow in form, tendering his resignation of the chair he had filled, and expressing himself as might be expected on such an occasion.—"I was never more anxious" (he says, in the conclusion of his letter) "for the good of the college than at this moment; and I sincerely wish that, whoever is my successor, he may not only do credit to the office by his abilities, but be a comfort to the very excellent men with whom he is likely to spend his life, by the probity of his heart and the goodness of his temper." On the receipt of this letter, the chair was declared to be vacant; and at a meeting of the heads of the university the sense of the value of their late professor, and the loss sustained by his removal was recorded in the following terms:—

"The University cannot help expressing their sincere regret at the removal of Dr. Smith, whose distinguished probity and amiable qualities procured him the esteem and affection of his colleagues, and whose uncommon genius, great abilities, and extensive learning, did so much honour to this society: his

elegant and ingenious 'Theory of Moral Sentiments' having recommended him to the esteem of men of taste and literature throughout Europe. His happy talent of illustrating abstracted subjects, and faithful assiduity in communicating useful knowledge, distinguished him as a professor, and at once afforded the greatest pleasure and the most important instruction to the youth under his care."

On quitting Paris, Dr. Smith and the Duke of Buccleugh proceeded to Toulouse, where they fixed their abode for a year and a half; enjoying the best society of the place, and finding in new manners and new modes of existence fresh sources of interest and information equally advantageous to both parties—to Dr. Smith affording opportunities of extending and confirming his previous acquaintance with men and books; and perhaps having the effect of biasing his judgment in some matters of taste and literature, rather erroneously, in favour of French criticism and genius, and of certain pre-conceived theories to which he was naturally inclined.

On quitting Toulouse, they spent the autumn of that year in a tour through the southern provinces of France and to Switzerland. At Geneva they remained a couple of months; and returned to Paris about Christmas 1765, where they continued till the month of October following.

It was at Paris, as we may well suppose, that Smith, after all, enjoyed by far the highest gratification which his journey afforded him. The capital, as Mr. Hume used to say, is the true scene for a man of letters; and if any, surely it was the capital of France at this period. Mr. Hume himself was there only for a short time after the arrival of his friend; but he was there long enough to introduce him to the most distinguished philosophers and men of learning then living in Paris:—D'Alembert, Helvetius, Marmontel, Turgot, Quesnai, and many others. The society of the two latter in particular we may be assured, from the congeniality of their sentiments upon subjects which Smith was at that time deeply meditating, must have been gratifying to him in a degree not very easy to conceive. It was that private and unreserved interchange of opinion in matters of moral and political science, with men like these, equally enlightened with himself, and animated by the same zeal for the happiness of mankind, that constituted his felicity; for, in other respects, the mere gaiety and brilliancy of Pari-

sian society were not adapted to his taste and manners; nor were his powers in conversation such as fitted him to shine amid its glare.

With Turgot and Quesnai he contracted a very close intimacy. With the former it was long supposed that he maintained an epistolary correspondence for a long period after his return to Scotland, a circumstance which excited naturally considerable interest, but of which Mr. Stewart, who took some pains to inquire into it, found reason to doubt the truth. It is certain that no memorial of such correspondence existed amongst Smith's papers, nor has any been made public from those of Turgot. It is well known, indeed, that Smith had no fondness for letter-writing, nor are we aware of three letters of his which have ever appeared in print. As he wrote few letters, it is equally to be regretted that he kept no journal during his travels, or if he did, that it was amongst the other papers which he took such anxious pains to secure the destruction of previous to his death.

Amongst the other eminent persons with whom Smith became acquainted whilst in Paris, and from whom he received distinguished marks of respect, was the family of the Duke de la Rochefoucauld; a circumstance not unworthy of being recorded, inasmuch as his introduction to that accomplished and amiable man led to the suppression in the latter edition of his "Theory of Moral Sentiments" of a rather severe animadversion upon the author of the celebrated "Maxims," which had been expressed in the first, where Smith had associated the name of Rochefoucauld with that of Mandeville. There is a letter extant from the Duke de la Rochefoucauld dated in 1778, addressed to Smith, transmitting to him a new edition of the "Maxims," in which he adverts with some pain to Dr. Smith's censure, and offers a poor apology, though the best that can be made, for a very shallow and pernicious performance, which persons equally shallow have taken for philosophy, but which nobody would have thought it worth while to remember or refute, if it had not been written in epigrams. In France he studied the principles of the economists in their writings as well as in their conversations; and was perhaps first led by the errors of that ingenious and amiable sect, to the contemplation of the more wide and just views to which

his mind was opening. The fine arts also and belles lettres, the poetry, and especially the drama of that country, subjects well worthy the contemplation of the philosopher, engaged no small share of his attention. The imagination and the arts which are addressed to it; the refined pleasures of which it is susceptible, and the taste to appreciate those pleasures, were then deemed not unworthy the attention of a philosopher. The principles upon which the arts are founded, the origin and nature of the emotions they excite, and the causes which, in different ages and nations, have diversified their character and operation, are subjects which were not only supposed to have some interest in themselves, but which have been investigated by such metaphysicians and economists as Hume and Smith, and Berkeley and Dugald Stewart, from the intimate and indissoluble connexion which they hold with the philosophy of the human mind; and as embracing an extensive and beautiful class of phenomena which form part of the great science of human nature. We are pleased to record such things in the character of Smith; because, however unimportant at other times, they are of consequence now, when one of the first of sciences is in danger of suffering in public estimation from the narrow and repulsive spirit which is occasionally mingled in its discussions: and because they shew that political economy, as a study, is not incompatible with a love of literature, and eloquence, and poetry; and assuredly not so with good taste and good writing*.

Dr. Smith's own taste in literature, as has been already hinted, was disposed to the admiration of what has been since denominated the classical, in contradistinction to the romantic, school of art. We do not remember, at this moment, a single reference to Shakspeare in the whole of his writings; while the lofty praise he has taken occasion to bestow upon the tragedies of Racine and Voltaire, his allusions to Pope, and encomium on Gray, exhibit more positive testimony in proof of this taste. But reserving what we have further to say respecting his general intellectual

character and literary taste, for the conclusion of our memoir, we proceed to detail the few remaining incidents of his life.

In October, 1766, Dr. Smith returned to London, where he and the Duke of Buccleugh separated; after having spent three years together, without the slightest coolness or disagreement; and, "on my part," says the Duke, in a letter which he addressed to Mr. Stewart, "with every advantage that could be expected from the society of such a man. We lived in friendship till the hour of his death; and I shall always retain the impression of having lost a friend whom I loved and respected, not only for his great talents, but for every private virtue."

Shortly after his return to England, he went down to his native place, where he continued to reside almost uninterruptedly for the next ten years of his life. An occasional visit to his friends at Edinburgh, with a journey to London once or twice in the interval, were his only diversions from a course of intense application. To his friends, to Mr. Hume in particular, this severe seclusion was a frequent matter of regret and complaint. Hume had returned to Edinburgh in 1669, after quitting his engagement with Lord Hertford; and in a letter written shortly after to Smith, he says, (dating from his house in St. James' Court, which commanded a prospect of the Forth and the opposite coast of Fife)—"I am glad to have come within sight of you; but as I would also be within speaking terms of you, I wish we could concert measures for that purpose. I am mortally sick at sea, and regard with horror and a kind of hydrophobia the great gulph that lies between us. I am also tired of travelling, as much as you ought naturally to be of staying at home; I therefore propose to you to come hither, and pass some days with me in this solitude. I want to know what you have been doing, and propose to exact a rigorous account of the method in which you have employed yourself during your retreat. I am positive you are in the wrong in many of your speculations, especially where you have the misfortune to differ from me. All these are reasons for our meeting, and I wish you would make me some reasonable proposal for that purpose. There is no habitation in the island of Inchkeith, otherwise I should challenge you to meet me there, and neither of us ever to leave the place till we are fully

* It is but justice to say here, that we are most happy to except from any censure implied in the above observations, two distinguished professors of political economy—we mean, Mr. Senior of Oxford, and Mr. Macculloch of the University of London—both of whom have invariably written and spoken in the spirit of their great master.

agreed on all points of controversy. I expect General Conway here to-morrow, whom I shall attend to Roseneath, and I shall remain there a few days. On my return, I hope to find a letter from you, containing a bold acceptance of this defiance."

There are extant several letters from this celebrated person, in which he exhorts his friend to leave his retirement, in terms expressive at once of the fondest friendship, and the most longing desire for his society: "I shall not take any excuse from your state of health," he writes on another occasion, "which I suppose only a subterfuge invented by indolence and love of solitude. Indeed, my dear Smith, if you continue to hearken to complaints of this nature, you will cut yourself out entirely from human society, to the great loss of both parties."

During the whole of this period, Smith may be considered as engaged in the composition of his great work. The room is still shewn at Kirkaldy, in which was written the greater part of the "Wealth of Nations;" and to that, and to scenes ennobled in like manner, by the exertions of genius and learning, will mankind some day make their pilgrimage in devotion to science and to virtue, when the shrines of kings and conquerors shall attract the homage which is often paid to them as little as they deserve it.

In the spring of the year 1773, he went up to London for rather a longer period than he was in the habit of leaving home; partly for the purpose of collecting some information, and making references relative to the work which now engrossed his whole thoughts.

There are so few letters of Smith's extant, as we have before observed, that we shall not hesitate to present to our readers the following, which he addressed to Mr. Hume on the point of his departure, as it serves to shew the extreme anxiety which he always felt about the destruction of his manuscripts:—

"Edinburgh, April 16th, 1773.

"MY DEAR FRIEND,

"As I have left the care of all my literary papers to you, I must tell you, that, except those which I carry along with me, there are none worth the publication but a fragment of a great work, which contains a history of the astronomical systems that were successively in fashion down to the time of Des Cartes.

Whether that might not be published as a fragment of an intended juvenile work, I leave to your judgment; though I begin to suspect that there is more refinement than solidity in some parts of it. This little work you will find in a thin folio paper in my back room. All the other loose papers, which you will find in that desk, or within the glass folding doors of a bureau in my bedroom, together with about eighteen thin folio books, which you will likewise find within the same glass folding-doors, I desire may be destroyed without any examination. Unless I die very suddenly, I shall take care that the papers I carry with me shall be sent to you.

"I am ever, my dear Friend,

"Most faithfully yours,

"ADAM SMITH."

The memorable year 1776, was now approaching, memorable in the life of Smith, as it was in the spring of that year that he gave to the world his immortal work, the "Inquiry into the Nature and Causes of the Wealth of Nations;" and in the autumn that death deprived him of his immortal friend, Mr. Hume.

Smith was in London at the time of the publication of his book; and the highest gratification, perhaps, afforded him on that occasion—higher, perhaps, than any which the praises of the world could give—was conveyed to him in the following letter, addressed to him by his dying friend. It was written from Edinburgh, only a few days before he set out on his journey to the South, as the only remaining hope of preserving his life; and testifies, almost in his last moments, the same amiable solicitude for his friends and their fame which characterised him throughout the whole of his existence. The letter is dated April 1, 1776—"Euge Belle! Dear Mr. Smith—I am much pleased with your performance, and the perusal of it has taken me from a state of great anxiety. It was a work of so much expectation by yourself, by your friends and by the public, that I trembled for its appearance, but am now much relieved. Not but that the reading of it necessarily requires so much attention, and the public is disposed to give so little, that I shall still doubt for some time of its being at first very popular. But it has depth, and solidity, and acuteness, and is so much illustrated by curious facts, that it must at last take the public attention. It is probably much improved by your last

abode in London. If you were here, at my fireside, I should dispute some of your principles. But these, and a hundred other points, are fit only to be discussed in conversation. I hope it will be soon, for I am in a very bad state of health, and cannot afford a long delay."

It was but a few months after the publication of "The Wealth of Nations," when the death of Mr. Hume gave occasion to one of the most memorable and honourable incidents in the life of Smith. Attached as they had been for years, by ties of no ordinary kind; revering and loving the friend of his life, for moral and intellectual qualities, rarely found apart, and still more rarely united, congenial in their sentiments upon every subject perhaps, save one—a difference upon which could create no abatement in the affections of two such men—Smith felt himself called upon, his heart yet bleeding under the loss he had sustained, to defend from calumny, now that he was dead, him, whom while living she had "never touched or attacked with her baleful tooth."*

It is well known that, from the nature of some of Mr. Hume's speculative opinions, coupled with the high celebrity of his name, his death had attracted no small degree of attention. It is known, too, that far more of zeal than charity had been displayed in a variety of rumours, equally false and absurd, which had been circulated relative to that melancholy event—calumny which, as we have said, had watched her hour, now poured forth her venom; and stories of death-bed horror and remorse, and agony and confession, were current through the land. It was easy to smile at all this; but it was felt to be due to the virtues of the man—to the benevolence of his affections and the unsullied purity of his life, to state the simple fact, that Mr. Hume's deathbed had betrayed no remorse whatever. Smith undertook to do this, undeterred by the obvious risk of incurring the odium of sharing the opinions of his friend, on the only subject perhaps on which they differed.

A few months only previous to his death, Mr. Hume had drawn up that brief but characteristic memorial of himself, entitled "My Own Life," and had left the care of its publication to Dr. Smith. To this memoir Smith appended his celebrated letter addressed to Mr.

Strahan, for the purpose, as he says, "of giving some account of the behaviour of their excellent friend during his last illness." The letter commences, therefore, where Hume's own account had ended; and having described the unruffled serenity of his mind and temper throughout the whole of his rapid decline—"his cheerfulness so great that his friends could not regard him as a dying man"—even to the last hour "so free from the smallest anxiety or low spirits that he never dropped the smallest expression of impatience, but when he had occasion to speak to those about him, doing it with the utmost affection and tenderness," and "that he died in such a happy composure of mind that nothing could exceed it."—He closes with the following passage, which we hesitate not to transcribe in this short memorial, (as we should have done the entire letter if our limits would admit,) because it is a greater honour to the writer than the subject; and because it is quite certain, that if there is one page from the pen of Smith that he would himself have desired to perpetuate, it this tribute to his friend, although it may be suspected that the warmth of friendship has somewhat overcharged the eulogy:—"Thus died," says he, "our most excellent and never to be forgotten friend, concerning whose philosophical opinions men will, no doubt, judge variously; every one approving or condemning them according as they happen to coincide or disagree with his own; but concerning whose character and conduct there can scarce be a difference of opinion. His temper, indeed, seemed to be more happily balanced, if I may be allowed such an expression, than that perhaps of any other man I have ever known. Even in the lowest state of his fortune, his great and necessary frugality never hindered him from exercising, on proper occasions, acts both of charity and generosity. It was a frugality founded not upon avarice, but upon the love of independency. The extreme gentleness of his nature never weakened either the firmness of his mind or the steadiness of his resolutions. His constant pleasantry was the genuine effusion of good nature and good humour, tempered with delicacy and modesty, and without even the slightest tincture of malignity, so frequently the disagreeable source of what is called wit in other men. It never was the meaning of his railery to mortify, and therefore far from offend-

* Hume—"My Own Life."

ing, it seldom failed to please and delight even those who were the objects of it. To his friends, who were frequently the objects of it, there was not any one, perhaps, of all his great and amiable qualities which contributed more to endear his conversation. And that gaiety of temper, so agreeable in society, but which is so often accompanied with frivolous and superficial qualities, was in him certainly attended with the most severe application, the most extensive learning, the greatest depth of thought, and a capacity in every respect the most comprehensive. Upon the whole, I have always considered him, both in his lifetime and since his death, as approaching as nearly to the idea of a perfectly wise and virtuous man, as perhaps the nature of human frailty will permit."

The effect of such a testimony, from such a quarter, was to put to silence, and it is to be hoped, in a great measure to put to shame, the disgraceful cry which had been set up; yet it did not do so altogether. Some there were who still joined in it, and taking advantage, as might have been foreseen, of Smith's generous zeal, attempted to heap upon the living that obloquy from which he had rescued the dead. Dr. Horne, afterwards Bishop of Norwich, published a letter addressed to Dr. Smith, in which the spirit of the theologian is much more conspicuous than that of the Christian, veiled as it was under an affectation of humour and irony, that ill concealed the bitter feelings in which it originated. To this publication of Dr. Horne, Dr. Smith did not deem it at all necessary that he should make any reply. He felt that he had done enough, and that it would have been equally unworthy of himself and his cause, to have commenced a controversy with Dr. Horne upon the merits, personal or philosophical, of David Hume.*

SECTION 5.—The "*Inquiry into the Nature and Causes of the Wealth of Nations.*"

It will scarcely be considered an exaggerated praise to say, that the "*Wealth*

of Nations" may be regarded as, perhaps, the most valuable acquisition which was made to philosophy and to science in the eighteenth century. It is of course quite beyond the limits of this memoir to offer an abstract or analysis of this great work. But, as in reference to the "*Theory of Moral Sentiments*," it was deemed proper to say a few words upon the subject itself of which it treats, and upon the leading principle of that theory; so it may be allowed us to offer a very few observations, in the same manner, upon the "*Inquiry into the Nature and Causes of the Wealth of Nations*," unquestionably the greatest production of Smith's genius.

In the closing passage of the "*Moral Sentiments*," he had promised, in some future work, to give an account of the general principles of law and government, and of the different revolutions they have undergone in the different periods of society; not only in what concerns justice, but in *what concerns police, revenue, and arms, and whatever else is the object of law; and to trace, in this way, those invariable principles which ought to run through, and be the foundation of the laws of all nations.*

In the "*Wealth of Nations*" he undertook to redeem this pledge, as far as regards police, revenue, and arms, by tracing the source, and nature, and progress of national wealth.

The fundamental principle, dimly conceived indeed, but never established and insisted upon before, upon which Smith raised, as upon a rock, the Science of Political Economy, was, that *labour is the source and origin of all wealth.* "Labour," says he, "was the first price, the original purchase money that was paid for all things. It was not by gold or by silver, but by labour, that all the wealth of the world was originally purchased;" and the mode by which the labour of man can be rendered most productive to his use and happiness is the problem to be solved by the economist.

Now the great cause of the increase in the productive powers of labour is found to consist in the *division of labour*—a division which arises in the first instance from the obvious suggestions of nature, and which, by giving birth in its progress to the institution of the various

* Having acknowledged our obligation to Mr. Stewart in the opening of this Memoir, it is only right that we should observe, that for several of the incidents which will be found in it, we are not indebted to that eminent person; and that amongst other circumstances in the very barren life of Dr. Smith, of which he has made no mention, this very remarkable one of his conduct upon the death of Hume has been passed over in silence. For this omission we can be at no loss to account: it was

dictated by the amiable solicitude for his friend's memory; and the apprehension that it might suffer from a revival of the asperities which his friendly zeal had excited. But a regard for truth prevents us from making a like omission.

arts, trades, and professions which exist in every advanced state of society, occasions that universal opulence which extends itself to the lowest ranks of the people.

But the effects of this principle have never in any society, or in any age of the world, been seen in their full extent, owing to the unjust and impolitic regulations which governments and legislators have at various times devised to control and thwart its operation. Instead of allowing every man to pursue his own interest in his own way, no society has ever yet been seen in which, from false views of policy, or from worse motives, extraordinary restraints have not been laid upon some branches of industry; while extraordinary privileges, equally injurious in their result, have been bestowed upon others.

In how different a spirit was conceived and executed the great work before us, is exhibited in every page. Smith aimed at, and he has succeeded in reducing that to a science, which had before been a succession of contrivances and devices, where no principle was ever referred to, and in which it was long supposed that science and principle could have no place*. The origin and continuance, indeed, of many of the most barbarous and oppressive institutions which tend to repress the energies of mankind, are to be traced very often to accidents, expedients, and prejudices, which belong as much to the people who are made to suffer from them, as to the laws and rules which have sometimes been the mere instruments of their establishment. To correct the policy of both was the object, and will be the lasting consequence, of his book. It was not by framing new forms of government, but by enlightening the policy of actual legislators, (as Mr. Stewart has well remarked,) that Dr. Smith, and other distinguished men of the last and present age, have attempted to ameliorate the condition of society. He endeavoured to shew, in one important branch of legislation, how much of the evils which affect its prosperity may be remedied by wise policy, and how much is the result of those higher and unalterable laws, by which the course of

human affairs is determined, and the operation of which, since they cannot be controlled, must be patiently endured.

An illustration of this may be found in that important part of his work wherein he treats of the causes which determine the rate of wages. When the economist describes, for instance, the manner in which the value of labour is affected by the combination laws, the apprentice laws, and the law of settlement,—he explains the mischief produced in all cases by their operation; in the injury sustained under them by the labourer himself, from their evident violation of that natural liberty and justice which is his right; in the inequality which they occasion in different departments of industry, and in different places, from their interference with that essential order and prosperity which would otherwise ensue from allowing every man, as long as he observes the rules of justice, to pursue his own interest in his own way. Thus far of the inexpediency and absurdity of such arrangements with respect to society at large; and of the influence which bad regulations or injurious laws may have in affecting the condition of the labourer, and that of the community of which he forms a part. But, when he comes to explain how, under all circumstances, and in every society where even the rights of individuals are most respected by the spirit of its government and its legislation, the general rate of wages must always depend upon the relative quantity of labour seeking employment, and of capital having employment to give: that it is a law of economy, resulting from a law of nature, that where labour is superabundant in proportion to capital, there it will necessarily be cheap; or, in other words, wages will be low—and that, on the contrary, where capital accumulates rapidly, and exceeds the supply of labour in the market, there labour will be dear, or, in other words, that wages will be high—when he has deduced this vital and important truth, and suggested thereby to the labourer, that on himself must mainly depend his ultimate prosperity, and that his condition for better or for worse is determined in this way by laws with which no human legislation can interfere, except in the removal of restrictions and prohibition, the political philosopher has done more for the peace and good order of society; and more to remove the sources of ill will, and promote a right understanding of their relative

* Even the capacious mind of Mr. Fox is said to have been sceptical with regard to some of the truths unfolded by Adam Smith; and within a much more recent period, we may remember that an illustrious statesman, now no more, spoke in Parliament, of the "application of philosophy to politics" as a thing having the air of paradox, and which it required a tone of apology to refer to.

position and duties in its different members; between labourers and their employers, between subjects and their government—more than can be achieved by the force of exhortation in a hundred volumes, or the force of power in a hundred armies.

But the complete development of the principle of the division of labour, it must be borne in mind, requires that the fullest and freest scope be allowed to competition, which is, in other words, the entire freedom of commercial intercourse. What the inhabitants of the different provinces of a great kingdom are to each other by the division of their employments, and the interchange of their commodities; so are the various people of the different countries of the globe. They are all bound together by the same great law, the use and benefit which they may derive from the exercise of each other's skill, and the produce of each other's labour; and this economy of nations would be as obvious as it is in the case of a single people, if bad politics, springing out of bad passions; if ambition and the love of conquest, and the glare of military glory, which compose for the most part the history of nations, had not blinded men to their true interests, and corrupted the common sense and virtue of mankind.

To recommend this unlimited freedom of commercial intercourse; to shew how the restrictions which have been put upon it have in all cases defeated the object in view, and must continue to do so from the nature of things; to shew that the ordinary impulses we obey in pursuance of our own selfish interest, and which might seem to have no other end, are made, by the wise order of the great Author of our being to point far higher, and to be conducive in their results to the good of the society, as much as to that of the individual, or even more so, (for the advantage we plan for ourselves often escapes us, when that to society remains;) to shew, in the intercourse of nations as of men, "that *true* self love and social are the same," and that mutual wants, by the all-wise economy of Providence, were made to minister to mutual happiness;—that the instinctive desire by which every man is actuated, of improving his own condition (laws and government having no other province than that of taking care that, in pursuit of this end, he trenches not on the right of his neighbour), is the simple but solid

basis on which has been reared and secured the everlasting progress of nations in every age:—Such were the enlightened doctrines which it was the purpose of Smith's work to enforce; and it is obvious that all legislation which proceeds upon an ignorance or contempt of these laws, is to the body politic, just what the prescriptions of a physician would be to the natural body, who knew nothing of the animal economy, its functions, or its structure.

As in the "Theory of Moral Sentiments," in treating of the moral constitution of man, he had been careful to distinguish the efficient from the final cause of our passions; he carried the same enlightened philosophy into all his investigations of human affairs, and shewed, as he beautifully expresses it, "that what is taken for the wisdom of man, is in reality the wisdom of God." There are numerous passages in his writings in which he inculcates the same sentiment, and enlarges on the folly of those speculators, who, in disregard of that wisdom, are constantly aiming to modify, by positive institutions, the natural order of society according to some arbitrary standard, instead of allowing it to advance in that course which is sure to conduct it, in the end, to the highest state of advancement of which it is susceptible. "Man," says he, in one of his early unpublished manuscripts, "is generally considered by statesmen and projectors, as the materials of a sort of political mechanics. Projectors disturb nature in the course of her operations in human affairs, and it requires no more than to let her alone, and give her fair play in the pursuit of her ends, that she may establish her own designs." "Little else," he adds, in another passage of the same paper, "is requisite to carry a state to the highest degree of opulence from the lowest barbarism, but peace, easy taxes, and a tolerable administration of justice; all the rest being brought about by the natural course of things. All governments which thwart this natural course, which force things into another channel, or which endeavour to arrest the progress of society, at a particular point, are unnatural, and to support themselves are obliged to be oppressive and tyrannical."

It is in this spirit that political economy must be studied, if it is to maintain that rank among the moral sciences which it deserves, and in which it was placed by its founder. It would, undoubtedly, be unfair to deny that any-

thing has been added to this science since the publication of the "Wealth of Nations." But if it were admitted that some errors of Smith have been pointed out by subsequent inquirers, it will hardly be allowed that one or two corrections of doctrine in particular points make anything like amends for what political economy has lost of late in public estimation by the different spirit which has dictated, and the different tone which has breathed through some publications of a more recent date. The subjects of which this science treats have occupied a very increased degree of the attention, in the last few years, of speculative men, of all parties. They have done more than this. The science has attracted the attention of public men and statesmen. It has been referred to in parliamentary discussions; and what would have been most gratifying to its great expounder, some of its leading principles have been recognised and acted upon in important, and we trust, in permanent legislative enactments. There has been mixed up with these debates, it is true, much that might have been well spared, without loss to the credit of the assemblies in which they have taken place, and much interested and ignorant opposition has been arrayed against every amendment of the law; but nothing has been said or done by the most ignorant and most interested opponent of the progress of sound, political, and commercial freedom, which would so much have grieved the author of the "Wealth of Nations," as the arrogant and intolerant spirit, the daring paradox, and dogmatical propositions which have been promulgated by some of his pretended followers.

It is not needful to say more upon this point; but we think it requisite to say so much, for the benefit of those who know nothing of the "Wealth of Nations," and nothing of political economy; and in order that they may not be turned away by any spurious disciples of the science, from the study of a work, of which it has been truly said,—"that, abstracting entirely the author's peculiar and original speculations, there is no book, perhaps, in any language, containing so methodical, so comprehensive, and so judicious a digest of all the most profound and enlightened philosophy of the age."

The title which Smith adopted for his work, admirable as it is, and expressive of the nature of his investigations; and

the introduction, in which he presents a luminous outline of his method, give no indication of the many masterly collateral disquisitions contained in it; because, in so comprehensive a subject, it was not easy to express, nor is it always obvious for the reader to perceive, the reference they bear to the investigations with which they are associated. These disquisitions, however, form very often the most interesting and valuable portion of the book, to those especially who, having less relish for the study of some branches of political economy, are pleased when they find its reasonings made applicable to purposes of more general philosophy. We would instance the whole of the first chapter of the fifth book, as being of this description; and more especially Art. II. and III. of Part the 3rd, entitled, "Of the Expense of the Institutions for the Education of Youth, and of the Expense of the Institutions for the Instruction of People of all Ages."

It may be remembered too that in every science, the most important and interesting truths are very often such as are obvious to every capacity, and when clearly stated admit of no dispute; whilst those parts of it which are least valuable, and most liable to angry controversy, are happily such as comprise doctrines purely speculative, and which, if they are of difficult comprehension, may be safely left uncomprehended. Now, if this is true of any science, it is true of political economy: there are thorny and vexatious questions included within its range, but we doubt if, in any of the moral sciences, there are so many well ascertained truths of great and practical importance which may fairly be said to lie, with candid reasoners, beyond the reach of controversy.

SECTION 6.—*From the publication of the "Wealth of Nations" until the death of Dr. Smith.*

THE two following years after the publication of the "Wealth of Nations" were spent chiefly in London; and Dr. Smith, as well he might, after ten years almost unremitting and severe application, relaxed his powers in the pleasures of society, and mingled with the many eminent men who were then at the head of wit and literature in the capital. Dr. Johnson, Burke, Gibbon, Beauchamp, Reynolds, and the other members of the

Literary Club, which had been formed many years before, and of which Smith had been previously a member, were among those with whom he associated at this time; but neither history nor tradition has handed down to us any of those sallies of colloquial wit and eloquence for which many of his contemporaries, far less distinguished than himself in the higher walks of philosophy and learning, have become celebrated with posterity. That he was not distinguished by the flow or force of his mind in conversation is quite evident; and he is reported to have said of himself, that he was so much in the habit of husbanding his resources for his works in the closet, that he made it a rule never to talk in society upon any subject which he understood. This story, however, we should be inclined to disbelieve. Such voluntary and deliberate abstinence from the pleasures of social converse, even if it were allowed to be a virtue, would evidently be one very difficult in practice: and instead of allowing him the credit of so rare a species of self-denial, we are more disposed, in accounting for his habitual reserve, to class Dr. Smith with some other very eminent men (Addison and Dryden are amongst them), whom Johnson has so admirably described in the following passage:—

“There are men whose powers operate only at leisure and in retirement, and whose intellectual vigour deserts them in conversation; whom merriment confuses, and objection disconcerts; whose bashfulness restrains their exertion, and suffers them not to speak till the time of speaking is past; or whose attention to their own character makes them unwilling to utter at hazard what has not been considered, and cannot be recalled.”*

The light in which the characteristic quality of his mind was regarded by his friends may be partly gathered, amongst other testimonies, from the allusion to him in the verses which Dr. Barnard addressed to the members of the club, not long after the publication of the “Wealth of Nations.” The stanza is as follows:—

If I have thoughts, and can't express 'em,
Gibbon shall teach me how to dress 'em
In words select and terse:
Jones teach me modesty and Greek,
Smith how to think, Burke how to speak,
And Beauclerc to converse.

In the year 1778, owing to the friend-

ship of the Duke of Buccleugh, and in some measure, we may trust, as a reward for his invaluable labours, Dr. Smith was appointed one of the Commissioners of the Customs in Scotland; an office which occasioned him to fix his residence in Edinburgh, where he continued to the end of his life.

If we should consider this appointment only in the light of an acknowledgement, of a recompense too rarely bestowed by men in power, for labours purely philosophical, and having nothing to recommend them but their intrinsic truth and beauty, few things can be more gratifying than the contemplation, to every lover of science and of virtue. Even the rewards which have been occasionally bestowed upon men of genius, by princes and their ministers, have too often been conferred for its prostitution to the mere purposes of power; the price of its past or future service, or the bribe for its silence when that alone was to be bought.

In the instance before us, it is gratifying to know, that the reward, if it was so meant, was equally honourable to the giver and the receiver. The works which Smith had published for the instruction of the world, had nothing to do with the possessors of power in his day, but to enlighten and direct its exercise. The parties and factions belonging to the period when he wrote could derive no particular or personal advantage from his writings; but mankind, in every age, will find in them the best corrective to faction and to party, by contemplating those eternal political truths with which party has rarely had anything to do, but which are equally salutary at all times, and under every form of government, for rulers and their people.

But if we should consider that the appointment which was bestowed upon Smith, however gratifying in other respects, was the cause, as there is reason to fear, of an interruption to his studies, and of the loss to the world of those speculations to which he had alluded in the closing passage of his *Moral Sentiments*, and the completion of which he is known never to have entirely abandoned but with his life; we shall be disposed to lament, perhaps ungratefully to lament, that he who had already done so much for the advancement of moral and political science, was not permitted to do more, by the fulfilment of his engagement to give to

* Life of Dryden.

his country a theory of jurisprudence, and in this manner to finish the structure which he had designed in his earlier days, and to fill up the measure of his fame. There is the greater reason to lament this, because the office imposed upon this enlightened man was one of no dignity or importance; but a duty of mere routine, the discharge of which must have been irksome to a mind like his, accustomed during his life to so different an application of his faculties. He might have been called, like Turgot, to the administration of his country, have enjoyed the melancholy satisfaction of endeavouring to enforce the maxims he had taught, and have found, perhaps, like him in the end, that the intrigues of the cabinet, the favour of the court, and the prejudices of the people, are equally adverse to the temper and the triumph of philosophy.

It was about this period that his friend and early patron, Lord Kames, in preparing a new edition of his work on the "Principles of Morality and Natural Religion," was induced to call in question the theory of Dr. Smith, and he therefore sent him a copy of the strictures he intended to introduce upon his work, before he proceeded to publication. To this Smith replied in the following letter, which we hesitate not to subjoin,—first, because, as we have before remarked, there are so few of his letters extant, and secondly, as it serves to shew the courtesy with which philosophic controversy was carried on in those days, and would generally be carried on, if the love of truth, and truth only, inspired it.

"November 16th, 1778.

"MY DEAR LORD,

"I am much obliged to you for the kind communication of the objections you propose to make in your new edition, to my system. Nothing can be more perfectly friendly and polite than the terms in which you express yourself with regard to me; and I should be extremely peevish and ill-tempered if I could make the slightest opposition to their publication. I am, no doubt, extremely sorry to find myself of a different opinion both from so able a judge of the subject, and of so old and good a friend;—but differences of this kind are unavoidable, and besides—*Partium contentio nibus respublica crescit*. I should have been waiting on your Lordship before this time, but the remains of

a cold have, for these four or five days past, made it inconvenient for me to go out in the evening. Remember me to Mrs. Drummond, and believe me to be, my dear Lord, your most obliged,

"And most humble servant,

"ADAM SMITH.*"

The greatest good conferred upon Dr. Smith by his official appointment, the greatest, indeed, that could be conferred by any additional wealth, was the power of extending the range of his benevolence, which is known to have been at all times exerted in acts of charity, far beyond what might have been expected of him, even after this moderate increase of his income. His excellent biographer has alluded to some remarkable instances of this nature in the life of Smith, which have been communicated to him by one of his confidential friends, where the assistance was on a scale as liberal as the manner of rendering it was delicate and affecting. Next to this was the satisfaction he derived from the privilege of spending the latter period of his life in the society of his oldest and dearest friends—free from those anxious cares with which the want of mere worldly competence has sometimes darkened the declining years of genius and of virtue. In the society of his mother, and of his cousin, Miss Douglas, who now formed part of his household, he enjoyed for some years every comfort and consolation that can be felt by one who is a stranger to the more endearing ties which bind a husband and a father. A simple, but hospitable table was always open to his friends.

In 1784 he lost his mother, and four years after, his cousin; and their death was felt by him as a severe and irreparable loss; little to be soothed by any worldly honour or applause; it being the effect, perhaps, of age and of all true wisdom, to render the mind as insensible to such vanities, as it is to dispose it to the influence of the social and domestic affections. Were it otherwise, the affliction under which he suffered might have been somewhat alleviated by one of the most gratifying circumstances

* There is a letter of Dr. Reid's extant, addressed to Lord Kames, in which he says that "after all, the system of sympathy is only a refinement of the selfish system," a criticism very like to saying that white is only a refinement on the colour of black—things, in which the plain sense of the world has discovered, some how or other, a pretty clear and durable distinction; notwithstanding the painter may blend them with his brush, or a logician, like Dr. Reid, confound them by his cavils.

of his life, which occurred about this period. In the year 1787 the University of Glasgow elected him rector of that learned body; and that he felt this compliment very sensibly, is manifest from the letter which he addressed to the principal of the college in acknowledgment of this, flattering distinction—an honour, however, be it remarked, which could scarcely have been rendered where it would have reflected back so much credit upon those who had bestowed it, and which, we may venture to say, would not have been lessened in the estimation of Dr. Smith, had he lived to see it conferred upon some illustrious names who have shared it in our own times.

“No preferment,” says he, “could have given me so much real satisfaction. No man can owe greater obligations to a society than I do to the University of Glasgow. They educated me; they sent me to Oxford. Soon after my return to Scotland, they elected me one of their own members, and afterwards preferred me to another office, to which the abilities and virtues of the never to be forgotten Dr. Hutcheson had given a superior degree of illustration. The period of thirteen years which I spent as a member of that society, I remember as by far the most useful, and therefore as by far the happiest and most honourable period of my life: and now, after three-and-twenty years absence, to be remembered in so very agreeable a manner by my old friends and protectors, gives me a heartfelt joy which I cannot easily express to you.”

The life of this illustrious man was now fast drawing to a close. For a considerable period previous to his death his health had gradually declined, and his mind reverted in his last moments with renewed regret to what he had left undone of the works he had so long designed. His death was approaching far too rapidly to leave the slightest hope of doing more; and his anxiety about the fate of his manuscripts became excessive. It was so great, that during his last illness, after reiterating the most earnest entreaties for their destruction after his death, he was yet not satisfied, and desired that the whole of his papers, except the few fragments which he bequeathed to the care of Dr. Hutton, might be destroyed immediately. His mind seemed greatly relieved, when he was assured that this was done. A very few days before he

died, he had two or three of his select friends to sup with him, as was his custom; but finding his strength fail him, he retired to bed, and as he went away, he took leave of them by saying, “I believe, Gentlemen, we must adjourn this meeting to some other place.” In the previous winter he had prepared a new edition of his “Moral Sentiments,” and in the advertisement which he prefixed to it, he had still allowed himself to express a last and faint hope that it might yet be permitted to him to complete his long-projected work on jurisprudence. Even then, the ardour of his mind would not suffer him altogether to relinquish a hope which, it was but too evident, could never be fulfilled. He died only a few days after the meeting to which we have referred, on the 17th July, 1790, bequeathing the valuable library which he had collected to his nephew, Mr. D. Douglas; appointing his friends, Dr. Hutton and Dr. Black, the executors of his will; and entrusting to them the charge of publishing the few unfinished sketches which had been allowed to survive him.

SECTION 7.—*On the general Character and Writings of Smith.*

THE character of Dr. Smith, like that of all men whose lives have been devoted to the pursuits of philosophy and science, may be best traced in his writings. It has perhaps been the fortune of few men so eminent to have engaged so little in the commerce and bustle of active life, and of few, it has been said, to have been so little fitted for it: yet the intellectual and moral capacities of this illustrious man were evidently of an order to have filled, and adorned, the highest station in society; and, notwithstanding the abstraction in which he lived, for the most part, from the business of the world, and some peculiar and characteristic traits which occasionally marked his habits and his opinions, it is clear that, with an understanding of the loftiest range, he was free, in many respects, from that exclusiveness and pedantry which have been sometimes ascribed to philosophers of great name, and which have given currency, we suppose, “to the opinion, so industriously propagated (says Mr. Hume) by the dunces in every age, that a man of genius is unfit for business.” In the establishment of his most enlightened theories, and those least of all subject to be dis-

puted in their ultimate and general tendency, he did not lose sight of that modification which they may occasionally require in practice, for the accomplishment of an immediate and beneficial purpose; and if the evidence of many striking passages in his works may be trusted, he did not incur as a philosopher, and would not have incurred as a statesman, the censure of rashly and unfeelingly adhering to an abstract principle in disdain of the interests which might be prejudiced, or even the prejudices which might have been shocked, by its application.

Nothing is more obvious, and nothing contributes so much to the beauty and value of his writing, as that in all his speculations he carried human life along with him; he never forgot that it was the chief praise and glory of philosophy to teach men how to act and to live; and he breathes through every page the admirable sentiment of a noble author—"That whatever study tends neither directly nor indirectly to make us better men and better citizens, is at best but a specious and ingenious sort of idleness, and the knowledge we acquire by it only a creditable kind of ignorance—nothing more*." This is eminently displayed in that valuable chapter to which we have referred, in the fifth book of the "Wealth of Nations," on the "Institutions for the Education of Youth"—one of the most profound and powerful disquisitions in any language. Neither the abstractions of philosophy, nor the pride of learning, nor the habits of the professor, could render him insensible to the purpose to which they ought all to be subservient, namely, the real interest of those who are to be taught. But the spirit of monopoly in such institutions he shews to be as inimical to those interests as it is in every other case. "The endowment of schools and colleges," he says, "have been opposed to this interest; they have not only corrupted the diligence of public teachers, but they have rendered it almost impossible to have any good private ones. Were there no endowed institutions for education, no system, no science could be taught for which there was not some demand. A private teacher could never find his account in teaching either an exploded and antiquated system of science acknowledged to be useful, or a science universally be-

lieved to be a mere useless and pedantic heap of sophistry and nonsense. Such systems, such sciences, can subsist nowhere but in those incorporated societies for education whose prosperity and revenue are, in great measure, independent of their reputation, and altogether independent of their industry. Were there no such institutions, a gentleman, after going through, with application and abilities, the most complete course of education which the circumstances of the times were supposed to afford, could not come into the world completely ignorant of everything which is the common subject of conversation among gentlemen and men of the world."

—"The discipline of colleges and universities," says he, in another passage, "is in general contrived, not for the benefit of the students, but for the interest, or, more properly speaking, for the ease, of the masters. Its object is, in all cases, to maintain the authority of the master; and whether he neglects or performs his duty, to oblige the students, in all cases, to behave to him as if he performed it with the greatest diligence and ability. It seems to presume perfect wisdom and virtue in the one order, and the greatest weakness and folly in the other. Where the masters, however, really perform their duty, there are no examples, I believe, that the greater part of the students ever neglect theirs. Such is the generosity of the greater part of young men, that so far from being disposed to neglect or despise the instructions of their master, provided he shews some serious intention of being of use to them, they are generally inclined to pardon a great deal of incorrectness in the performance of his duty, and sometimes even to conceal from the public a good deal of gross negligence."

Such are the manly and liberal doctrines which he has put forth on this all-important topic. How unlike to the contracted and monkish sentiments entertained by many men, a great portion of whose lives has been passed within the walls of an university; and that too in the capacity of public teachers!

He was an ardent lover of freedom, but his devotions were not paid to her as to an unknown goddess, of whose attributes he was ignorant, and to whom his offerings were but an idle and a gaudy worship. If he loved freedom, he understood, better than the lovers of freedom have always done, in what it consisted: by what institutions it might be rendered

* Lord Bolingbroke—On the Study of History.

most permanent, and its substantial blessings be more widely and equally diffused. The scorn of oppression and injustice was in him an active and discerning sentiment; and, in his ardour for the interests and happiness of mankind, he felt alike, whether the means by which they were inflicted were legal or illegal. The poor and the weak, the humble and the unprotected, he knew had, in every age, endured more of evil from the operation of unjust laws than they have ever done from the mere violation of law. It was their condition, that is, the condition of the great mass of society, which he studied and wrote to ameliorate; and his language never assumes a loftier or more ardent tone than when he advocates their interests,—the interests of mankind at large, against some crying wrong, sanctioned, as it may happen to be, by law or charter. We might refer in proof of this to his observations on the laws against the combination of workmen, where he vindicates the poor against the power of the rich—on the law of settlement, the law of entails, and the severe and contemptuous tone in which he censures the spirit of commercial monopoly under every form. Nor did he fail to visit with equal severity the sentiments in which such impolitic and unjust regulations have their origin. Witness the indignant manner in which he replies to the miserable complaints of those who, disposed to view every improvement in the condition of the labouring classes of society as an encroachment upon their superiors, censure every increasing comfort they enjoy as a luxury to which they have no right. As he reproaches the injustice and impolicy of any attempt to retard their advancement, if such were possible; so has he treated with still greater contempt the monstrous and cruel paradox which has been sometimes maintained, that a liberal rate of wages relaxes the industry of the labourer, and that he never works so well as when he is ill requited for his labour.

“The liberal reward of labour,” says Smith, “as it is the effect of increasing wealth, so it is the cause of increasing population. To complain of it is to lament over the necessary effect and cause of the greatest public prosperity. As it encourages the propagation, so it increases the industry, of the common people. The wages of labour are the encouragement of industry, which, like

every other human quality, improves in proportion to the encouragement it receives. Where wages are high, accordingly, we shall always find the workmen more active, diligent, and expeditious. In cheap years, it is pretended they are generally more idle, and in dear ones more industrious than ordinary. A plentiful subsistence, therefore, it has been concluded, relaxes, and a scanty one quickens their industry. That a little more plenty than ordinary may render some men idle cannot be doubted; but that it should have this effect upon the greater part, or that men in general should work better when they are ill fed than when they are well fed, when they are disheartened than when they are in good spirits, when they are frequently sick than when they generally are in good health, seems not very probable.” . . .

“Our merchants and master-manufacturers too (he says, in another part of his work) complain much of the bad effects of high wages in raising the price, and thereby lessening the sale of their goods both at home and abroad. They say nothing concerning the bad effects of high profits. They are silent with regard to the pernicious effects of their own gains. They complain only of those of other people.”—*Wealth of Nations*, Book I. ch. 8—9.

Yet his zeal in the best of causes never made him lose sight of the end of all law—the preservation of the peace of society. He takes care to shew that it is not the province of a good or a wise man to seek the establishment of his principles by violence or undue pertinacity, and in disdain of the prejudices and institutions of the community which he seeks to influence.

“The man, whose public spirit is prompted altogether by humanity and benevolence (he says, in one of the finest passages of his writings) will respect the established powers and privileges even of individuals, and still more those of the great orders and societies into which the state is divided. Though he should consider some of them as in some measure abusive, he will content himself with moderating what he often cannot annihilate without great violence. When he cannot conquer the rooted prejudices of the people by reason and persuasion, he will not attempt to subdue them by force; but will religiously observe what by Cicero is justly called the divine maxim of Plato, never to use violence to his country, no more

than to his parents. He will accommodate, as well as he can, his public arrangements to the confirmed habits and prejudices of the people, and will remedy, as well as he can, the inconveniences which may flow from the want of those regulations which the people are averse to submit to. When he cannot establish the right, he will not disdain to ameliorate the wrong; but, like Solon, when he cannot establish the best system of laws, he will endeavour to establish the best that the people can bear*."

Finely as he has tempered in his writings the rigour, if we may so speak, of his speculative doctrines; and careful as he is at all times, by the infusion of moral sympathy, to correct any error or evil that might lurk in the logical inferences to be deduced from them; with a sagacity in his general reasonings, alive to the nicest shades in the conduct of the understanding and the passions; his excellent biographer has given us reason to think that his unpremeditated opinions both of men and books were not always such as might have been looked for, from the soundness of his judgment, and the singular consistency of his principles as a philosopher. His discernment of the character of individuals was often defective, and apt, like his particular judgments on other occasions, to be influenced by accident and humour. He seemed to be habitually inattentive to familiar objects and common occurrences, and "has frequently exhibited instances of absence," says Mr. Stewart, "which have scarcely been surpassed by the fancy of La Bruyère."

Some striking and amusing instances of this infirmity have been recently made public, by a lively and agreeable writer, from whose powers of humorous description, however, it may well be supposed they have lost nothing in the narrative.† We will mention one circumstance which is recorded by Mr. Mackenzie, in illustration. When that gentleman wrote the beautiful story of La Roche, in the 'Mirror,' in which, with reference to the character of Mr. Hume, he embodied the sentiments which the good nature and benevolence of that illustrious man might have suggested under the circumstances imagined, he was particularly anxious that

there should not be a single expression in it, which could give offence or uneasiness to any friend of Mr. Hume's; and he read the story to Dr. Smith, desiring him to say, if there was anything in it that he would wish to be omitted or altered. He listened to it very attentively from beginning to end, and declared that he did not find a syllable to object to, but added (with his characteristic absence of mind, says Mr. Mackenzie), *that he was surprised he had never heard the anecdote before.*

It may be easily supposed that with such a propensity to abstraction, he did not readily fall in with the tone of general conversation, and that in consequence of that, and of his professional habits as a lecturer, he was apt to express rather exclusively, the result of his own meditations, without sufficient reference at all times to the topic in hand, or the immediate purpose of its discussion; and that his style had more of the precision of a formal discourse, than of the ease and freedom which constitute the charm of colloquial intercourse. It is reported of him too that he was occasionally more positive in the assertion of his opinions than is always becoming in a philosopher, and that notwithstanding the extent and variety of his information, he erred sometimes from taking a partial and peculiar view of a subject, as it might chance to be connected at that particular moment with some passing speculation in his mind.

His learning was extensive and profound. His study had not been confined to the subjects which might appear to have occupied the whole labour of his life. The sciences of ethics and politics were not taken up by him, as detached and abstract branches of philosophy. They came presented to his mind as part of the greater science of human nature, to which he had always devoted himself; and in the contemplation of which he borrowed every aid which a careful observation of the various institutions which have existed among men, their history, their language, and the monuments of their arts and letters, could afford him. But he loved literature, as he loved virtue, for its own sake, for its intrinsic beauty and worth. In its best records, those which exhibit the actions, and display the passions and sentiments of men, whether in philosophy where they are traced to their causes; in history, in

* Moral Sent. vol. ii. part vi. sect. 2.

† Vide Quart. Rev. On the Life of John Home, ascribed to Sir Walter Scott.

poetry, and oratory, where, under different forms, they are beheld in their operation; amid that exhaustless variety of circumstances and vicissitude of fortune, under which man has been seen at once an agent and a victim; he found the everlasting materials for his speculations, the real and only data of all moral science. He did not affect to despise, economist as he was, the imperishable productions of human wit and genius, the poetry of Homer or of Milton, the eloquence of Demosthenes, or of Fox; because he could find in their works no argument for the theory of rent, or the doctrine of population. Nor was he pleased to think it the part of a philosopher or a philanthropist, to sneer at the domestic affections, and the social virtues, in the most comprehensive investigations which he instituted, and which had for their object the common benefit of mankind.

In his last hours he found delight in the tragedies of Euripides and Racine; and the drama, and the principles of the dramatic art, and of poetry in general, formed a frequent and favourite topic of his conversation. He was a great advocate for rhyme, a more unqualified one even than Dr. Johnson, for he was accustomed to contend for the propriety of it as well on the stage, as in all other departments of poetry*.

As he loved to read it, he was accustomed to quote poetry, and the number of beautiful passages which he had treasured in his memory, and was in the habit of introducing in conversation, was remarkable in a man distinguished by so many higher acquisitions.

His peculiar taste is best exemplified in the style of his writings, which possess, even in that respect alone, merit of a very high order. If he has not (and who has?) the grace, the "careless, inimitable beauties,"† of Mr. Hume, it was owing in some measure to his not having mixed in such varied society; a circumstance which, acting upon the refined taste of the latter, lent to his com-

positions that inexpressible charm, which Gibbon may be supposed to have felt, when he describes himself in his ambition to emulate him, as "closing the volume with a mixed sensation of delight and despair*."

The great aim of Dr. Smith as a writer, and his great merit, is a marvellous perspicuity in the exposition of his ideas. Often diffuse, but never prolix; sometimes condensed, but never entangled in his expression; he unfolds the process of his reasonings so amply, that he leaves nothing to be supplied by his reader but a careful attention to his matter. Mr. Fox however is reported to have said of him, perhaps hastily, that he was unnecessarily diffuse, and fond of deductions where there was nothing to deduce. Mr. Stewart, with greater reserve, has ventured to hint a criticism nearly similar, and has ascribed this quality in his compositions to his early fondness for the study of the Greek geometry.

His greatest defect in the "Wealth of Nations," along with some faults in the arrangement of his subject, arises from his frequent digressions; his long dissertations upon some incidental questions, which frequently encumber the text, and intercept that complete and unbroken view of the subject as a whole, which a didactic author, who desires to interest and inform his reader, should always endeavour to preserve, from the first simple proposition with which he sets out, to the final development of his system in all its parts. This defect arose partly from a peculiarity in his judgment, which led him to reject the use of marginal annotations; so useful in treating of many subjects, and certainly, it would seem, not the least so, in many which Dr. Smith undertook to discuss in his great work. It is curious, however, that, in the "Wealth of Nations," there are, we believe, but three or four notes, of four or five lines each, in the whole work, and these containing little more than references to authorities; whilst, in the "Theory of Moral Sentiments," there occurs but one of considerable length, and of importance more than equal to its length, in which it is remarkable that he has embodied a piece of reasoning, having essential reference to his system, of which it may be said, indeed, to furnish one of the strongest supports,

* It is well known that the two Doctors got to rather high words once at Mr. Dilly's table, where they met at dinner. Many years after this, when Johnson, on some occasion, was maintaining the superiority of rhyme over blank verse, Boswell observed that he had heard Adam Smith enforce the same criticism in his lectures at Glasgow. "Sir," said Johnson, "Smith and I once met, and we did not much take to each other; but if I had known that the dog loved rhyme as much as you say he does, Sir, I should have hugged him."

† Gibbon's Memoirs.

* Gibbon's Memoirs.

and the clearest illustrations to be found, perhaps, in the whole work.*—†

There is no doubt that he bestowed great care upon the style and composition of his works. And after all his practice as a writer, he is said never to have acquired that facility which is often attained by it, but to have written as slowly, and with as much labour at last, as he had ever done. This however was the effect, in some measure, of the nature of his speculations, and the general character and conduct of his understanding. In all his works, though we find passages of exceeding eloquence, force, and beauty, he is most distinguished for being a deliberate reasoner, and a candid and cautious thinker. It was usual with him, when employed in composition, not to write with his own hand, but to walk about his room dictating to an amanuensis. He had collected, in the course of his life, a very valuable library, which he bequeathed to his cousin, Mr. David Douglas. As he was a lover of books, he was more attentive to their condition, and the outward fashion of them, than is usual with scholars in general. When Mr. Smellie once called upon him, and was admiring a splendid copy of some classic author, and the general elegance of his shelves,—“You see, Sir,” said Smith, “if in nothing else, I am a beau at least in my books.”

Besides the two great works of which we have spoken, and on which the fame of Dr. Smith will for ever rest, we must not omit to mention the very original and ingenious dissertation on the formation of languages, which was appended to the early editions of the “Moral Sentiments,” and still continues to be published along with that work; and the few masterly, but unfinished sketches which were published shortly after his death. The tract on languages is a piece of extensive learning and profound observation; but though Mr. Stewart

has bestowed high praise upon it, it seems hardly to have attracted the notice it deserves. The longest and most important of the posthumous essays, is entitled a “History of Astronomy,” in which the author proposes to illustrate the principles which suggest and direct philosophical inquirers, by an account of the origin and progress of that interesting science. The same train of thought was pursued in two shorter and more imperfect essays, on the “History of the Ancient Physics,” and that of the “Ancient Logic and Metaphysics.” Along with these is a disquisition of very great beauty, entitled, with his accustomed amplitude of language, “On the Nature of that Imitation which takes place, in what are called the Imitative Arts;” and another, on the “External Senses”—all abounding in great originality of thought, exquisite illustration, and expression the most expanded and luminous.

In the “Sketches of the History of Philosophy,” we find the same turn and tendency of mind which he has displayed in his greater works; a disposition which delighted to ascribe the first exercise of the imagination and the intellect, not to any view of profit or advantage in its results, but to a natural desire to fill up the void which was felt by the mind, from its inability to comprehend and connect together the various, and, as it would seem, the disjointed appearances which present themselves to its contemplation in the scenes and operations of nature. “Philosophy,” says Dr. Smith, “is nothing but the science of the connecting principle of nature.” It is an art addressed to the imagination, which seeks to adapt and reconcile to that faculty some theory, more or less satisfactory, of the phenomena, which, at first view, are void of order and connexion, and of meaning. The superiority of the Newtonian philosophy, he maintains, consists only in this,—that it is the most pleasing solution of the great problem of nature which has yet been given—that it connects more easily and more simply the appearances of the heavens in the fancy—not that it is by any means to be regarded as unfolding the actual chains which nature makes use of to bind together her several operations.

In the few observations which have been made upon the writings of this illustrious man, as in the short extracts introduced from them, it has been less our object, as will be seen, to dwell upon

* Dr. Smith was betrayed into this rejection of marginal writing, by his classic adherence to the plan of composition of the ancients, who were equally ignorant of the use and the abuse of our modern practice; but many of whose works would evidently have been much improved by a moderate adoption of it; and every reader of the “Wealth of Nations” must have felt how much he would have been relieved in the study of this great work, if many portions of it, which might be pointed out, had been removed from the text to the margin, to be consulted in their proper places, and not allowed to interrupt, as they often do, a chain of profound and subtle reasoning, or an interesting deduction of consequences of the highest importance to the establishment of the point in question.

† Vide “Theory of Moral Sent.,” Part ii, Sect. 1.

their merits with reference to any *system*, either of morals or economy, or to the soundness or fallacy of any particular doctrine, than to point out the admirable spirit which animates every part of that system; and those principles to which he always appeals, as the legitimate sources whence alone we can draw the materials of all moral and political institutes. To have done more than this, to have given even a very brief abstract of his system, in either of his two great works, would have far exceeded the limits of the present memoir; would require, and might well deserve, a separate treatise.

What has been attempted, however imperfectly, may not be altogether without its use, at least until propositions in the moral, as in the mathematical sciences, shall admit of demonstration. When that shall be the case, and the results of our reasonings can be submitted to so decisive a test, the sources whence we derive them, and the mode in which they are conducted, may be alike indifferent, and cannot assuredly affect in the slightest degree the truths demonstrated. Till then, however, it must be considered as no unimportant part of that species of philosophy which, in the expressive language of Lord Bacon, comes home to men's business and bosoms, to temper its doctrines by moderation and modesty; to engage the sympathies on our side of those we undertake to teach, and not to repel them; to endeavour to shew, if we can, that the doctrines we inculcate may be traced to a higher wisdom than that of man, by being in conformity with the rules by which nature seems to work, and in furtherance of principles which she has evidently implanted for the accomplishment of her own great ends.

No philosopher has so constantly borne in mind as Dr. Smith, that in the moral, as in the physical constitution and frame of man, nature has made cer-

tain provisions for his attainment to virtue and to happiness, which the ignorant may overlook, and the arrogant may disregard, but with which the wise will only study to co-operate. And all the precepts we can put forth will derive their best sanction, and afford the strongest presumption in their favour by their being shewn to be in unison with those simple instincts of our nature, by which alone, as individuals, we are first taught to apprehend a distinction between good and evil,* and which, in the obvious arrangements they suggest for the social union, were equally intended by our great Creator as lights to the economist and the legislator for the framing of those laws and institutions which take place in the wider and more complicated associations of men. It was in this excellent and truly enlightened spirit, that Smith, by applying the experimental method of reasoning to moral subjects, attained the vantage ground of that higher philosophy of which it is the glory of Bacon to have pointed out the road;—by which Newton ascended to the discovery of the sublimest truths in physics;—and by the careful cultivation of which alone, if ever, it may be hoped, that the moral and political sciences will be placed on a foundation equally enduring, and when knowledge in them will more surely become power to man, as their reference to his happiness and advancement is more obvious and immediate.

* It has become usual of late, even in moral and political discourses, to regard all reference to authority as marks of a poor and illogical understanding. In the physical sciences, those more especially which rest upon mathematics, (as we have said in the text) the argument from authority is of course out of the question. It is different we conceive in other subjects;—and though we have little respect for an hypothesis, however supported, which appeals from the universal sense and feelings of mankind, an authority that appeals to that sense and those feelings is entitled to a good deal, and for our parts we should be satisfied to take our chance of error, in a question concerning the principle of moral approbation—for instance, with Hume and Smith, and Stewart and Mackintosh.

THE LIFE OF LORD SOMERS.

JOHN SOMERS was born at Worcester, in an ancient house called the White Ladies, which, as its name seems to import, had formerly been part of a monastery or convent. The exact date of his birth cannot be ascertained, as the parish registers at Worcester, during the civil wars between Charles I. and his Parliament, were either lost, or so inaccurately kept as not to furnish any authentic information. It appears probable, however, from several concurring accounts, that he was born about the year 1650. Dean Swift, who was at first the flatterer, and afterwards the virulent calumniator, of Somers, says that he was sprung 'from the dregs of the people,' and attributes the reserve of his character to his consciousness of his low and base origin. It is, perhaps, scarcely worth while to refute so wretched a calumny; but as a matter of fact it should be stated that the family of Somers was respectable, though not wealthy, and had for several generations been possessed of an estate at Clifton, in the parish of Severnstoke in Gloucestershire. Admiral Sir George Somers*—who was deputy governor of Virginia, and in 1610 was shipwrecked on the Bermudas, and afterwards died there, leaving his name to that cluster of islands—is said by Horace Walpole† to have been a member of the same family. The father of Somers was an attorney in respectable practice at Worcester; in the civil wars he became a zealous Parliamentarian, and commanded a troop in Cromwell's army. The indecent outrages commonly practised in the churches by Cromwell's troopers, are reported in most of the histories of those unsettled times; and it is related of old Mr. Somers, that when attending divine service in the church of Severnstoke, he was so exasperated at the royalist doctrines delivered by the clergy-

man, that he fired a pistol above his head, the ball lodging in the sounding-board of the pulpit. Soon after the battle of Worcester, he resigned his commission and returned to the practice of his profession; but at the Restoration, he thought it prudent to procure a general pardon of all offences which he might have committed while serving in the republican army. He died in January 1681-2; and his monument, upon which is engraved a Latin inscription written by his son, is still to be seen in the church at Severnstoke.

Of the early education of Somers we have only a meagre and unsatisfactory account. The house called the White Ladies, in which he was born, was occupied by a Mr. Blurton, an eminent clothier of Worcester, who had married his father's sister. This lady having no son of her own, adopted young Somers from his birth, and brought him up in her own house, which he always considered as his home till he went to the university. He appears to have spent some years in the College-school at Worcester, which before his time* had attained a high character for classical education under the superintendence of Dr. Bright, a clergyman of great learning and eminence. At this school, Dr. Samuel Butler, the author of 'Hudibras,' and Chief Justice Vaughan†, also received the first rudiments of their education. At a subsequent period, we find him at a private school at Walsall, in Staffordshire. He is described by a schoolfellow as being then 'a weakly boy, wearing a black cap, and never so much as looking out when the other boys were at play‡.' He seems, indeed, to have been a remarkably reserved and 'sober-blooded boy.' At a somewhat later period, Sir Francis Winnington

* Mr. Cooksey, and several other biographers of Somers, represent him as having been himself a pupil of Dr. Bright, and even as having boarded in his house; regardless of the anachronism, that Dr. Bright died in 1626, and that Somers was born in 1650.

† See his Life, prefixed to his Reports.

‡ Seward's Anecdotes, vol. ii. p. 114.

* It appears from the Commons' Journals, that a Sir George Somers was, in 1606, a Member of Parliament for Lyme Regis in Dorsetshire: this was no doubt the same person.

† Catalogue of Royal and Noble Authors.

says of him, 'that, by the exactness of his knowledge and behaviour, he discouraged his father, and all the young men that knew him. They were afraid to be in his company*.' In what manner his time was occupied from the period of his leaving school until he went to the university in 1675, is unknown. It has been suggested that he was employed for several years in his father's office, who designed him for his own department of the profession of the law. There is no positive evidence of this circumstance, though the conjecture is by no means improbable. It cannot, however, be doubted, that during this important period of his life he acquired those habits of regular and well-directed industry which were afterwards invaluable to him; and, by the diligent study of history and constitutional law, laid the foundation for that mass of learning and accomplishments which eventually rendered him the ornament of his profession, and of the age in which he lived. About this time he formed several connexions, which had great influence upon his subsequent success in life. The estates of the Earl of Shrewsbury were managed by Somers's father; and as that young nobleman had no convenient residence of his own in Worcestershire, he spent much of his time at Worcester, and formed an intimate friendship and familiarity with Somers. About the same time he was also fortunate enough to be favourably noticed by Sir Francis Winnington, then a distinguished practitioner at the English bar, who is stated to have been under obligations to his father for his active services in promoting his election as a member of parliament for the city of Worcester. Winnington is described by Burnet† as a lawyer, who had 'risen from small beginnings, and from as small a proportion of learning in his profession, in which he was rather bold and ready, than able.' It is natural to suppose that such a man, feeling his own deficiencies, would readily perceive with what advantage he might employ the talents and industry of such a young man as Somers in assisting him both in Westminster-hall and in parliament. It was probably with this intention that Sir Francis Winnington advised him to go to the university, and to prosecute his studies with a view to being called to the bar.

In 1674, Somers was entered as a commoner of Trinity College, Oxford, being then about twenty-three years of age. The particulars of his progress through the university are not recorded; but here, as at school, his contemporaries could perceive few indications of those splendid talents which afterwards raised him to such extraordinary eminence. His college exercises, some of which are still extant, are said to have been in no respect remarkable; and he quitted the university without acquiring any academical honours beyond taking his bachelor's degree. It is probable that he came to London, from time to time, for the purpose of keeping his terms for the bar, while his permanent residence was at Oxford. The following anecdote is related in a memoir published soon after his death. 'Mr. Somers's father,' says this anonymous biographer, 'used to frequent the terms in London, and, in his way from Worcester, was wont to leave his horse at the George at Acton, where he often made mention of the hopeful son he had at the Temple. Cobbet, who kept the inn, hearing him enlarge so much in praise of his son, to compliment the old gentleman, cried, "Why won't you let us see him, sir?" The father, to oblige his merry landlord, desired the young gentleman to accompany him so far on his way home; and being come to the George, took the landlord aside, and said, "I have brought him; Cobbet, but you must not talk to him as you do to me; he will not suffer such fellows as you in his company."'

Mr. Somers was called to the bar in 1676*, by the Society of the Middle Temple, but he continued his residence at the university for several years afterwards, and did not remove to London until the year 1682, when, upon his father's death, he succeeded to the paternal estate at Severnstoke, which was worth about 300*l.* per annum. During this period, he had the advantage of being introduced, by the Earl of Shrewsbury and Sir Francis Winnington, to the Earl of Essex, Sir William Jones, Algernon Sidney, and several other distinguished opponents of the arbitrary measures of the court. It has been observed, with much reason, 'that if it

* Seward's *Anecdotes*, vol. II. p. 112.
 Burnet's *Own Times*, vol. I. p. 440.

* From the books at the Middle Temple, it appears that Somers was admitted to commons May 24th, 1669; called to the bar May 5th, 1676; and to the bench May 10th, 1682, (the day after his appointment as collector-general.)

had not been for Mr. Somers's political connexions with Lord Shaftesbury, Sir William Jones, and other great leaders of the opposition to the court of king Charles II., he very probably had never attained those honours which he deserved and became so well.* At this time he published several treatises, which sufficiently displayed to the world his familiar and accurate knowledge of constitutional history. His first acknowledged work was the report of an election case, and is entitled 'The memorable Case of Denzil Onslow, Esq., tried at the Assizes in Surrey, July 20th, 1681, touching his election at Haslemere, in Surrey.' His next performance was 'A Brief History of the Succession, collected out of the Records and the most authentic Historians.' This work was written at the time when the proposal to bring in a bill to exclude James Duke of York, afterwards James II., from the succession to the crown of England, occupied universal attention, and excited the most lively interest. Somers's political friends, the Earls of Essex and Shaftesbury in the House of Lords, and Sir Francis Winnington and Sir William Jones in the Lower House, warmly supported the bill of exclusion, in opposition to the scheme proposed by the more moderate party, and approved by the king, for a statutory limitation and restriction of the exercise of the regal functions in case the crown should descend to the Duke of York†. The object of Somers's tract was to exhibit the principles upon which the parliament of England has authority to alter, restrain, and qualify the right of succession to the crown; and he places the historical arguments in support of this proposition in a forcible and convincing light. Indeed, though it might be difficult to justify such a proposition by abstract reasoning upon the theory of the British constitution, it has been so repeatedly acted upon in several periods of our history, that even in the time of Charles II. the practice had, as Somers justly contended, to all intents and purposes, sanctioned and established the principle. An excellent tract, upon the same subject, entitled 'A just and modest Vindication of the two last Parliaments,' appeared shortly after the breaking up of the Oxford parliament in March, 1681, which has been

partly ascribed to Somers: Burnet says that it was 'originally penned by Algernon Sidney, but that a new draught was made by Somers, which was corrected by Sir William Jones*.'

Upon occasion of the attempt of the court party in 1681,—by the illegal examination of witnesses, by the king's counsel, in open court,—to induce a grand jury to find a true bill for high treason against the Earl of Shaftesbury, the failure of which exasperated the projectors of it beyond measure, Mr. Somers wrote his celebrated tract, entitled 'The Security of Englishmen's Lives, or the Trust, Power, and Duty of the Grand Juries of England explained.' This work was attributed by some to Sir William Jones. Bishop Burnet says, 'It passed as writ by Lord Essex, though I understood afterwards it was writ by Somers, who was much esteemed and often visited by Lord Essex, and who trusted himself to him, and who writ the best papers that came out in that time.' In later times, this work has been universally ascribed to Somers; and the fact of this treatise, as well as the 'Just and Modest Vindication,' being composed by him, seems confirmed by Lord Hardwicke's assertion, that he had seen the rough draughts of both of them in Lord Somers's handwriting amongst the manuscripts which were destroyed by fire at Lincoln's Inn in 1752.

With reference to Somers's conduct in the publication of these excellent constitutional treatises upon the passing politics of the day, Mr. Dunning, in his 'Letter on Libels, General Warrants, &c.,' makes the following just observation: 'Few men,' says he, 'know much of the nature of polity; and of them, all do not sufficiently attend to the conduct of administration to observe when slight innovations are made in the laws or in their administration: and of those who do, very few indeed have that degree of understanding which enables them to judge soundly of the consequences of such alterations with respect to their liberties in general. Again, of these, very few—not more than one, perhaps—has activity, resolution, and public spirit enough to publish his thoughts, as Mr. Somers did, concerning what was going forward, in order to alarm (like a good citizen) the rest of his fellow-subjects.'

During his residence at Oxford Somers was not inattentive to polite literature;

* 2 Ralph, 704-5.

† Burnet's Own Times, vol. 1. p. 481.

* Burnet's Own Times.

he published a translation of some of Ovid's Epistles into English verse, which, while it shows that he could never have attained so distinguished a place among poets, as he afterwards filled among lawyers and statesmen, is yet by no means a contemptible performance. His translations from Ovid, and a version of Plutarch's Life of Alcibiades, are the only published proofs of his classical studies at Oxford.

In the year 1682 he removed to London, and immediately commenced an assiduous attendance upon the courts of law, which at that time was considered as the highway of the legal profession. In 1683 he appeared as junior counsel to Sir Francis Winnington, in the defence to an important political prosecution, instituted against Pilkington and Shute, with several other persons, for a riot at the election of sheriffs for the city of London; and it is worthy of being remarked, that Mr. Holt, afterwards lord chief justice, was associated with him in that defence*. One of his biographers states, that, in the reign of James II., his practice produced 700*l.* a year. In those days this would have been a very large income for a common lawyer of five years' standing. It may reasonably be doubted whether this account of the extent of his practice at the bar is not considerably exaggerated; his name does not once appear in the Reports of that period, excepting in the case of Pilkington and Shute above alluded to; and it is clear, from the objection afterwards made to his being retained on the trial of the Seven Bishops, that he was not then distinguished by any great degree of professional eminence, though his merits as a political writer must have been generally known and appreciated. Such, however, was the character for research and industry which he had attained within a very few years from the commencement of his professional career, that, on the trial of the Seven Bishops in 1688, he was introduced as counsel into that momentous cause, at the express and peremptory recommendation of Pollexfen, one of the greatest lawyers of that day.

The transaction from which this celebrated trial arose is so generally and familiarly known, that it will be sufficient to remind the reader of the general outline of the circumstances. In April, 1687, James II. promulgated a 'Declaration

for religious indulgence and toleration in England.' The real object of this declaration, though it professed to be directed to the attainment of general liberty of conscience, was to enable the king to introduce Roman catholics into offices of influence and importance in the state, from which they had been excluded by the rigorous statutes of Elizabeth and James I. For this purpose he declared that he had suspended all penal and sanguinary laws in matters of religion. It was obvious that, by this declaration, the king, in fact, assumed the power of absolutely dispensing with acts of parliament by his own authority; for the suspension of laws at the will of the crown, without any limitation of time, differs in no material respect from the actual repeal or abrogation of them. The king ordered the declaration to be publicly read in all churches on two several Sundays, during the time of divine service. The archbishop of Canterbury and six bishops presented a petition to the king, praying, in firm but respectful language, that the clergy might be excused from the performance of this obnoxious duty. The king and the partisans of the court were highly exasperated; the bishops were summoned before the privy council, and, upon their refusal to make an apology or submission, an *ex officio* information was filed in the court of king's bench, charging them with publishing a seditious libel against the king and the government by the presentation of the petition. The rank of the defendants, the personal interest of the king in the question at issue, the general expectation excited by this conflict amongst all classes of the people, and, above all, the event of the prosecution, which was one of the principal means of driving James from his throne and kingdom, and of introducing the revolution, render the trial of the Seven Bishops one of the most important judicial proceedings that ever occurred in Westminster-hall. It was no trifling testimony, therefore, to the high estimation in which Somers was held by experienced judges of professional merit, that he should be expressly selected by the counsel for the defendants to bear a part in the defence. We are told that upon the first suggestion of Somers's name, 'objection was made amongst the bishops to him as too young and obscure a man; but old Pollexfen insisted upon him, and would not be himself retained without the

* How. St. Tri. vol. ix. p. 241,

other, representing him as the man who would take most pains, and go deepest into all that depended on precedents and records*.' How far the leading counsel for the bishops were indebted to the industry and research of Somers for the extent of learning displayed in their admirable arguments on that occasion, cannot now be ascertained; his own speech, as reported in the State Trials, contains a summary of the constitutional reasons against the existence of a dispensing power in the king, expressed in clear and unaffected language, and applied with peculiar skill and judgment to the defence of his clients. His argument was particularly applauded by the audience; and there is no doubt that he owed his future fortune, in great measure, to the character he gained in this trial.

The intimate connexion of Somers with the leaders of that political party by whom the revolution was effected, and, in particular, with his early friend Lord Shrewsbury, leaves little room for doubt that he was actively employed in devising the means by which that important event was brought about. It is said by Addison †, that 'as he was admitted into the secret and most retired thoughts and councils of his royal master King William, a great share in the plan of the protestant succession was universally ascribed to him.' Immediately upon the flight of James II., the Prince of Orange, by the advice of the temporary assembly of lords and commons, which he had convened as the most proper representation of the people in the emergency of the time, issued circular letters to the officers in the several counties, cities, and boroughs of England, to whom writs were usually sent for calling parliaments, directing them to summon a parliamentary convention. On this occasion, Mr. Somers, who had never sat in parliament, was returned as a representative by his native city of Worcester. We find him taking a conspicuous part in the long and laborious debates which took place in that assembly, respecting the settlement of the government. Upon a conference with the lords respecting the resolution, 'that James II., having withdrawn himself out of the kingdom, had *abdicated* the government, and that

the throne had thereby become vacant*,' Mr. Somers was one of the managers for the commons, and spoke at great length, and with much learning, in support of the original resolution, against the amendments proposed by the lords. This resolution having been ultimately adopted by both houses of parliament, and the Prince and Princess of Orange having been declared King and Queen of England, a committee was appointed, of which Somers was a member, 'to bring in general heads of such things as were absolutely necessary to be considered for the better securing the protestant religion, the laws of the land, and the liberties of the people.' The report of this committee, which was a most elaborate performance, having been submitted to the examination of a second committee, of which Somers was chairman, and connected with resolutions passed in the house of lords, formed the substance of the declaration of rights which was afterwards assented to by the king and queen and both houses of parliament, and thus solemnly acknowledged as the basis of the constitution.

It is impossible to ascertain with precision the particular services rendered by Somers in the accomplishment of

* It may, perhaps, be worth while to call the attention of the reader to a curious parallel to this discussion in very early times. After King John had subjected the kingdom of England to the Pope, the barons determined that the throne was vacant, and offered the crown to Lewis of France. The transaction is thus related in Matthew Paris, p. 236:—'*Rex supradictus, præter assensum magnatum suorum, regnum Angliæ Domino Papæ contulit et ecclesiæ Romanæ, ut iterum illud reciperet ab eis tenendum sub annuo tributo mille marcarum. Et si coronam Angliæ sine baronibus alicui dare non potuit, potuit tamen dimittere eam. Quam statim cum resignavit, Rex esse desiit, et regnum sine rege vacavit. Vacans itaque regnum, sine baronibus ordinari non debuit; unde barones elegerunt Dominum Ludovicum ratione uxoris suæ, cujus mater, Regina scilicet Castiliæ, tota ex omnibus fratribus et sororibus regis Angliæ vivens fuit.*' [The above-named king, without the assent of his nobles, bestowed the kingdom of England upon our lord the pope and the Roman Church, in order that he might take it again from them to hold by an annual tribute of 1000 marks. And although he could not give away the crown to another without the assent of the barons, he might lay it aside; and, as soon as he had resigned it, he ceased to be king, and left the kingdom vacant and without a king;—now, the kingdom being vacant, could not be disposed of without the barons, wherefore the barons chose the Lord Lewis in right of his wife, whose mother, the Queen of Castile, was the only one remaining alive of the brothers and sisters of the king of England.]

Thus, in 1216, as well as in 1688, the throne was declared vacant by the abdication of the king; and, at both periods, relationship to the abdicated monarch determined the choice of a successor.

* Kennett's Complete Hist., vol. iii. p. 518, note c.
† Freeholder.

this great measure. It appears from the Journals, that, during the sitting of the convention, there was not a single committee appointed on any subject of constitutional importance of which he was not a member. There was, perhaps, no individual in existence who was at that moment so well qualified as he was to lend important aid in conducting his country with safety through the difficulties and dangers of a change of government, and in placing the interests of the nation upon a secure and solid foundation. Fortunate was it for the people of England and their posterity that the services of a man of Somers's industry and settled principles, of his sound constitutional information, and his rational and enlightened views of the respective rights and duties of kings and subjects, were, at that critical juncture, available to his country; and that, at the instant of the occurrence of this momentous revolution, his character was sufficiently appreciated and acknowledged to render those services fully effective.

On the 9th of May, 1689, Somers was made solicitor-general, and received the honour of knighthood. In the warm debates which took place in parliament in the following year, on the bill for the recognition of the king and queen, and for avoiding all questions touching the acts made in the parliament assembled on the 13th of February, 1688, a doubt was suggested in the house of commons, whether the convention, not being summoned by the king's writ, had any legal sanction. Upon this occasion Somers greatly distinguished himself by the spirited and able manner in which he answered the objection. 'If,' said he, 'that convention was not a legal parliament, this is not a legal parliament, and we who are now met, and have taken the oaths prescribed by that parliament, are guilty of high treason; the laws repealed by that parliament being still in force, we must presently return to king James; and all the money collected, levied, and paid by virtue of the acts of that parliament, makes every one that was concerned in it highly criminal. Besides, if the laws of that parliament want confirmation, it is impossible for you to give it: upon the validity of the acts then done depends the authority of your's; and if those acts want confirmation, this parliament cannot confirm them*.' 'He spoke,' says Bur-

net, 'with such zeal and such an ascendant of authority, that none were prepared to answer it, so that the bill passed without more opposition. This was a great service done in a very critical time, and contributed not a little to raise Somers's character*.' In the debates which took place on the bill for the exercise of the powers of government by the queen in the king's absence, Somers also greatly distinguished himself by his profound acquaintance with precedents, and his argument on the effect of a delegation of the regal authority†.

During the period that Sir John Somers filled the office of solicitor-general, it devolved upon him, in the absence of the attorney-general, to conduct the prosecution against Lord Preston for high treason. Lord Preston, who had been secretary of state to James II., had joined with several gentlemen in an ill-concerted and unpromising conspiracy to overthrow the government, and restore the exiled king, by the introduction of a French army and a French fleet. Notice having been given to the government, in December, 1690, that a vessel had been engaged for the purpose of carrying some unknown persons to France, a search was made at Gravesend, and three passengers were found concealed among the ballast in the quarter-hatch of a smack: one of those persons proved to be Lord Preston; a second was Ashton, who had held a place in the household of the late queen; and the third a gentleman named Elliot. On their discovery, Ashton attempted to throw some papers into the sea, which were recovered, and in them the treasonable nature of their design was clearly developed. Lord Preston was tried and convicted of high treason, at the Old Bailey, on the 17th of January following, before the lord chief-justices Holt and Pollexfen, and the lord-chief-justice Sir Robert Atkyns‡. The report of the proceedings on this trial, which was the first state prosecution that had occurred since the revolution, is extremely interesting. The three presiding judges were individuals of the highest professional reputation, and the honour and independence of their character were so universally known and acknowledged, as to give extraordinary

* Burnet's Own Times, vol. ii. p. 42.

† Grey's Debates, vol. x. p. 168.

‡ How. St. Tr., vol. xli. p. 645.

* Grey's Debates, vol. x. p. 50.

authority and dignity to the proceedings. To those who had witnessed the brutal coarseness, the indecent impatience, and the cruel rhabdri of Scroggs and Jeffries, in the state trials of the preceding reigns, it must have been a new and striking picture of the administration of criminal justice, to behold Lord Holt mildly and patiently explaining to the understanding of a somewhat pertinacious prisoner the legal reasons upon which the court refused him a copy of the indictment. Nor was it a less novel or less satisfactory part of the exhibition to observe, on the part of the counsel for the crown in a state prosecution, a studied abstinence from all invective or declamation against the prisoner, and a rigid adherence to an unvarnished statement of the facts in support of the charge, as they were about to be proved in evidence. More palpable cowardice and injustices can, indeed, hardly be conceived, than an attempt, by exaggerated statements or vituperation, to inflame the passions and mislead the judgment of a jury against a delinquent, who has not the assistance of counsel, and who, from his ignorance of the law, and inexperience in courts of justice, is literally brought out to fight without a weapon against an armed and practised adversary. It must be considered as a proof of the good taste of Somers, as well as of the enlightened justice of his mind, that he was the first English advocate who set the example of moderation and gentle demeanour towards the accused in the conduct of a criminal prosecution. 'I did never think,' says he, in his address to the jury in Lord Preston's case, 'that it was a part of any who were of counsel for the king in cases of this nature, to endeavour to aggravate the crime of the prisoners, by going about to put false colours upon evidence, or to give it more than its due weight, and therefore I shall be sure to forbear any thing of that nature. But I think it my duty to give some short account of the nature and course of the evidence to be produced to you, which, consisting of several kinds, it will be in some sort necessary to open it, that you may the more clearly apprehend it, and with more ease make your observations upon it.' He uses nearly the same language in other criminal prosecutions conducted by him, and on all occasions he faithfully adhered to the rule which he had laid down for himself.

In April, 1692, Sir Henry Pollex-

fen, the chief justice of the common pleas, died; and Sir George Treby being raised to his office, Somers became attorney-general, and in the month of March following was appointed Lord Keeper of the great seal. While he presided in the court of chancery as lord keeper, he delivered his celebrated judgment in the Bankers' case, which Mr. Hargrave characterizes as 'one of the most elaborate arguments ever delivered in Westminster-hall*.' It is said that Lord Somers expended several hundred pounds in collecting books and pamphlets for this argument.

Consistently with the good sense and modesty of his character, it appears that, after he received the great seal, he repeatedly declined a peerage when pressed upon him by the king, declaring that he had not a sufficient fortune to support the dignity. In a letter† to him from the Duke of Shrewsbury, dated May, 1695, the duke says, 'I had directions to have said everything I could imagine to persuade you to accept of a title, and the king is really convinced that it is for his service that you should. I beg the answer I may have may be a bill for the king's signing. As for arguments, I have used all I have already; and by your objections, you may give me leave to tell you, you are as partial and unreasonable, with too much modesty, as some are with too much ambition.' Notwithstanding this friendly remonstrance, he still declined a peerage for several years; and it was not until the year 1697, when appointed Lord Chancellor, that he was raised to the peerage, with the title of Baron Somers of Evesham. Upon this occasion the king granted him an annuity of 2100*l.*, together with the manors of Reigate and Howleigh, in Surrey. The acceptance of these grants formed one of the charges upon which he was afterwards impeached by the commons.

In the following year Lord Somers succeeded Mr. Montague, afterwards Lord Halifax, as president of the Royal Society. The particular circumstances which led to this appointment are unknown; in all probability, however, his election to an office, the duties of which were entirely inconsistent with his judicial and political engagements, was intended merely as a compliment to his public character. The journals of the

* How. St. Tri. vol. xiii. p. 3.

† Hardwicke State Papers, vol. ii. p. 437.

Royal Society state, that he was elected a fellow, a member of the council, and president on the same day (the 30th Nov. 1698), and was annually re-elected as president till the year 1703. During the five years that Lord Somers filled the chair of that institution, it appears, from the same authority, that he attended the meetings of the members only twice; no papers were written or communicated by him either while he was president, or before, or afterwards; nor is there any evidence, beyond the present of a Chinese chair to the Society, that he took the slightest interest in their proceedings. In the year 1703 the council seem to have considered that the objects of the institution would be more efficiently promoted by a scientific president, who would actively direct and superintend their transactions, than by one whose time and thoughts were necessarily absorbed by political business; and, in accordance with this rational impression, at the annual day of election under the charter,—they placed Sir Isaac Newton in the chair.

For some years after Lord Somers was in possession of the great seal, and before he was raised to the peerage, he enjoyed the fullest confidence of the king, and was of essential use to him in the difficult circumstances in which he was placed. There is, perhaps, no part of the history of England more devoid of interest than the narrative of the endless contentions between the whig and tory factions at the close of the seventeenth century: at the same time, there is no period which more clearly exhibits the utter worthlessness of faction, the inconsistencies and absurdities of party spirit, and the extent to which the real interests of the people may be neglected and injured, when rival parties are struggling for power in the administration of government. Scarcely were the principles of the revolution defined and established by the Act of Settlement, when each house of parliament became the arena of fierce contention between the whigs and tories; no occasion was too trivial for the exhibition of skirmishes discreditable to both parties, detrimental to the public service, and mortifying, almost beyond endurance, to the feelings of the king. Embarrassed and provoked by the conduct of the two factions, William repeatedly threatened to retire to Holland, and leave the government of England to the queen. He told the Duke of Hamilton,

that 'he wished he were a thousand miles from England, and had never been king of it;' and declared to Lord Halifax, that 'all the difference he knew between the two parties was, that the tories would cut his throat in the morning, and the whigs in the afternoon.' In this state of affairs, the wisdom and integrity of Lord Somers became of important service, not only to the king personally, but to the general interests of the nation. Himself a whig, and zealously attached to whig principles, he contrived in some degree to moderate and restrain the impetuosity of his own party; and, by the obvious good sense of his advice, so recommended himself to the confidence of the king, that none of his ministers, with the single exception, perhaps, of Lord Sunderland, ever obtained a greater influence in his councils. Bishop Burnet says*, that, 'as Lord Somers was one of the ablest and most incorrupt judges that ever sat in chancery, so his great capacity for all affairs made the king consider him before all his ministers, and he well deserved the confidence the king expressed for him on all occasions.' His conduct on the death of Queen Mary, in 1694, in promoting a reconciliation between the king and the Princess Anne, as exhibited in the following anecdote†, shows at once the extent of his influence, and the judicious mode in which he used it:—Soon after the queen's death, the princess was prevailed upon by Lord Sunderland to write a letter to the king, condoling with him on the event, and soliciting a reconciliation. A short time after this letter had been received, and as soon as he concluded that it had produced its effect, Lord Somers, who had long regretted the unhappy dissensions in the royal family, repaired to the palace at Kensington; he found the king sitting at the end of his closet, in an agony of grief more acute than seemed consonant to his phlegmatic temper. Absorbed in reflection, William took no notice of the intrusion, till Somers broke silence by proposing to terminate the unhappy difference with the princess: the king replied, 'My lord, do what you will, I can think of no business.' To a repetition of the proposal the same answer was returned. By the agency of Somers an interview was accordingly arranged, in which the king received the princess

* Burnet's Own Times, vol. ii. p. 218.
† Cox's Life of Marlborough, vol. i. p. 58.

with cordiality and demonstrations of apparent regard, informing her that the palace of St. James's should be appropriated for her future residence.

By his influence with the king, and the skill and discretion with which he covertly guided the movements of his own party, Lord Somers had been, for some time before his elevation to the peerage, the means of preserving the whig administration; and in 1698, after the resignation of the Earl of Sunderland, the chief power of the government rested in his hands, and those of Lord Orford and Mr. Montague. Within two years, however, from the period of his appointment as lord chancellor, he was destined to experience the force of party malignity, and the selfishness and instability of royal favour. The tories plainly perceived that there were no hopes of power for their party, unless they could succeed in destroying his popularity, and removing him not only from his office, but from the private confidence of William. To this object, therefore, the combined efforts of the faction in both houses of parliament were directed incessantly and effectually, aided by the innumerable artifices of insidious intriguers distributed about the person of the king. In a letter* to the Duke of Shrewsbury, which, though without a date, was undoubtedly written about the close of the year 1698, Lord Somers distinctly alludes to the progress which had then been made in undermining the stability of the whig ministry. 'There is nothing,' says he, 'to support the whigs, but the difficulty of the king's piecing with the other party, and the almost impossibility of finding a set of tories who will unite. So that, in the end, I conclude it will be a pieced business, which will fall asunder immediately.' The first symptom of the decline and fall of the whig administration was unquestionably the failure of the proposal for the maintenance of a standing army in 1697, and the consequent resignation of Lord Sunderland. Though holding only the insignificant office of lord chamberlain, Lord Sunderland had long acted the part of prime minister, and was universally believed to have encouraged and promoted, if he did not originally suggest, the obnoxious and unsuccessful project for a standing army. Alarmed at the national clamour, and the rapidly declining popularity of the

whigs, and dreading the prospect of a parliamentary censure, which was not obscurely hinted at by the tories, he resigned his office, 'not only,' says Burnet, 'against the entreaties of his friends, but even the king's earnest desire that he would continue about him*.'

The next object of attack was the Earl of Orford, who had been for many years at the head of both the admiralty and navy departments. In the early part of 1699, he also resigned his employments, not choosing to risk the consequences of a threatened contest with the house of commons respecting his accounts as treasurer of the navy; and, in the course of the same year, Mr. Montague, foreseeing a storm arising, which he had not courage to encounter, also retired from the ministry. On the other hand, Lord Somers, who still retained a great degree of influence over the king, determined to continue at his post till he could no longer be serviceable to his country. He reprobated the conduct of his colleagues in thus deserting their party, and declared that in his opinion 'it was altogether unnecessary to surrender at discretion to the tories; that if the king would be true to his friends, they would be true to him:' and strongly urged the dissolution of the parliament, for the purpose of giving the whigs an opportunity of recovering their ascendancy in the house of commons. The king was himself favourable to a dissolution, but the great majority of his ministers dissuaded him from so bold, and, as they represented it, so dangerous a measure, and it was consequently abandoned. But though powerful in influence, and still more powerful in his acknowledged talents and integrity, Lord Somers was at this period the *only* remaining support of the tottering fabric of the whig administration: to his removal, therefore, as the last obstacle to their return to power, the strenuous efforts of the tories were now directed.

In pursuance of this design, the tory party in the house of commons, in the course of the stormy session of parliament which commenced in November, 1699, made several violent but ineffectual attacks upon the lord chancellor. The first charge brought against him was, that in the exercise of his office as superintendent of the magistracy of the

* Hardwicke State Papers, vol. ii. p. 436.

* Burnet's Own Times, vol. ii. p. 207.

country, he had improperly dismissed many gentlemen from the commission of the peace. Upon a full explanation of the circumstances, it appeared that in 1695 and 1696, when the rebellious project commonly called the Assassination Plot was discovered, a voluntary association had been formed for the support of the king and the government, which originated in the houses of parliament, and was generally entered into throughout the country: it was thought that those who refused to enter into this association were so ill-affected, or at least so little zealous for the government, that they ought not to continue justices of peace; and an order was made in council that such persons should be excluded from the commission. All that Lord Somers had done was to obey this order upon the representations of the lords-tenant of the different counties; and so cautious had he been to do no injustice in this respect, that he laid all these representations before the privy council, and refused to strike out a name without a special order in each particular case. This charge was proved to be so utterly groundless, that it was abandoned by those who introduced it*. The second accusation had no better foundation than the first. Great complaints having been made of certain English pirates in the West Indies, who had plundered several merchant ships, it was determined to send out a ship of war for the purpose of destroying them. But as there was no fund to bear the charge of such an expedition, the king proposed to his ministers that it should be carried on as a private undertaking, and promised to subscribe 3000*l.* on his own account. In compliance with this recommendation, Lord Somers, the Duke of Shrewsbury, the Earls of Romney, Orford, Bellamont, and several others, contributed a sufficient sum to defray the whole expense of the armament; and as the adventure was entirely supported by the private funds of individuals, the whole of the prizes which might be taken were given by letters-patent to the persons who had subscribed towards it. Burnet says†, that 'Lord Somers understood nothing of the matter, and left it wholly to the management of others: only that he thought it became the post he was in to concur in such a public service.' Unfortunately, one Captain Kidd was

appointed, on the recommendation of Lord Bellamont, the governor of New York, to command the expedition, who, instead of attacking the pirates, was unprincipled enough to turn pirate himself, and having committed various acts of robbery on the high seas, was eventually captured, brought to England, and some time afterwards tried and executed for his offences. Upon this occurrence it was insinuated that the lord chancellor, and the other individuals who had subscribed towards the expedition, were engaged as partners in Kidd's piratical scheme, with full knowledge of his intentions. The enterprise was said, by some speakers in the house of commons, to be 'framed on a mere pretence of public service, but in truth for the sake of spoil; those who were too tender-conscienced to commence pirates in the first instance, feeling no repugnance to sharing among themselves that which had been unjustly taken from others.' So that an undertaking, which was not only innocent, but meritorious and patriotic, was construed, by the blindness of party prejudice, into a premeditated design for robbery and piracy. The chancellor, as a magistrate placed at the head of the highest department of justice, became the peculiar object of invective and reproach, and he was said to have 'disgraced his high station by participating in an enterprise so scandalous.' Some of the members even went so far as to visit Kidd in Newgate, for the purpose of extracting evidence; but the sturdy pirate stoutly declared, both in private, and upon his examination at the bar of the house, 'that he had never spoken to Lord Somers in his life, and that the only orders he had received were to pursue his voyage against the pirates.' A motion in the house of commons was founded upon this absurd imputation, but was rejected by a great majority. Shortly afterwards, after ordering a list of the privy council to be laid before the house, a question was moved in the house of commons, 'That an address should be made to his Majesty to remove John Lord Somers, Chancellor of England, from his presence and councils for ever.' This motion, however, was also negatived by a large majority. In reference to this motion, Matthew Prior, the celebrated wit and poet, who was then under-secretary of state to the Earl of Jersey, in a letter to the Earl of Manchester, dated

* Burnet's Own Times, vol. ii. p. 241.

† *Ibid.*, p. 236.

February 12th, 1700, says, 'To-morrow is the great day when we expect that my lord chancellor will be fallen upon: though God knows what crime he is guilty of, but that of being a very great man, and a wise and upright judge.' It is related, that some time afterwards, the king declared, at dinner, in the presence of several peers, respecting Kidd's affair, that 'if, by the law of England, he could be a witness, he could, of his own knowledge, justify the lords concerned in all they had done in that business.'

These vexatious proceedings in the house of commons, though they failed in their immediate object, filled the mind of the king with irritation and disgust. He renewed his impatient threat of quitting the government of a nation whom he charged with the deepest ingratitude; and though diverted from this purpose, which he never perhaps seriously entertained, he was readily induced to listen to the interested advice of the tory leaders, who promised, if intrusted with the conduct of government, to extricate him from the labyrinth in which he was involved. Artfully affecting to disparage and disbelieve the late charges against the lord chancellor in the house of commons, they represented to the king that his unpopularity in that house was alone of such fatal detriment to the public service, that it was absolutely necessary to remove him from the government. This suggestion was reported to Lord Somers by the king himself, who at the same time intimated to him that he was inclined to concur in the necessity of his giving up the great seal. Lord Somers assured the king, that he was perfectly willing to resign it, and anxious to retire from public business; but that he was so firmly convinced that those who had advised his removal had done so to serve themselves and not the government, that he was resolved, with his majesty's permission, to keep the seal in defiance of their malice; that he feared them not, and was ready to endure patiently all the trials they might put upon him, with the hope of being serviceable to his majesty.' He repeated, that 'if his majesty would adhere to his friends, they would be true to him, and that in a new parliament he had no doubt that he should be able to carry whatever points he had in view for the public welfare.' The king shook his head doubtfully, and said 'It must be so.'

The parliament was prorogued on the 11th of April, 1700: and very soon afterwards, the king, wearied with the perpetual broils of faction, determined at all events to try the experiment of an accommodation with the tories, and inconsiderately and selfishly consented to dismiss the lord chancellor from his office. At the time when this resolution was formed, Lord Somers was confined to his house by a severe attack of illness; and on his first appearance at court after his recovery, the king informed him, that he was now convinced that it was necessary for his service that he should resign the seal, but wished him to make the resignation himself, in order that it might appear to be his own act. The chancellor declined to make a voluntary surrender of the great seal, as such a course might be supposed to indicate a fear of his enemies, or a consciousness of misconduct in his office; upon which Lord Jersey, the secretary of state, was sent to him on the 17th of April, 1700, with an express warrant, and Lord Somers delivered the seal to him without hesitation. 'Thus,' says Bishop Burnet*, 'the Lord Somers was discharged from his great office, which he had held seven years, with a high reputation for capacity, integrity, and diligence. He was in all respects the greatest man I had ever known in that post: his being thus removed was much censured by all but those who had procured it. Our princes used not to dismiss ministers who served them well, unless they were pressed to it by a house of commons that refused to give money till they were laid aside. But here a minister, who was always vindicated by a great majority in the house of commons when he was charged there, and who had served both with fidelity and success, and was indeed censured for nothing so much as for his being too compliant with the king's humour and notions, or at least for being too soft or too feeble in representing his errors to him, was removed without a shadow of complaint against him.' It is said that, shortly before his death, the king declared that his unjust conduct towards Lord Somers at this time was the circumstance in his past life which he reflected upon with the greatest uneasiness. Much difficulty was experienced in finding a successor: the uncertainty of the duration of the

* Burnet's Own Times, vol. ii. p. 242.

new administration, together with a reluctance to succeed so great a man in an office of so much responsibility, deterred persons of rank and eminence in the profession from aspiring to the ephemeral dignity of the seal. The office was successively offered to Lord Chief Justice Holt, and Sir Thomas Trevor, the attorney-general, who both declined to receive it; the great seal was then placed for a short time in commission, and was ultimately bestowed upon Sir Nathan Wright, one of the king's serjeants, a man but very indifferently qualified for the office to which he was preferred.

On his return from Holland in October, 1700, the king completed his arrangements for the tory administration; and the new ministers, judging that their interest would be strengthened upon a re-election, immediately dissolved the parliament. The new parliament assembled on the 10th of February, 1701; and it immediately appeared, upon occasion of the election of a speaker, that the expectations formed by the ministry, of a great predominance of the tory interest, were verified. Early in the session of parliament, the celebrated Partition Treaties gave occasion to much angry debate in both houses, but especially in the commons. Although Lord Somers's conduct with respect to these treaties seems not to have been entirely irreproachable, it became the subject of much misrepresentation; and he was assailed with a virulence of invective and abuse, quite disproportionate to his imputed error. It appears that in the spring of 1698, before the king's departure for Holland, a proposal was made to him by the agent of the French government, for a treaty to arrange the partition of some of the territories belonging to the crown of Spain, upon the expected death of Charles II. This partition was to be made in certain defined proportions between the electoral Prince of Bavaria, the Dauphin of France, and the Archduke Charles, the second son of the emperor. The king entertained these proposals favourably, and the negotiation proceeded almost entirely between the French agent and his majesty, and without the formal interference of ministers*. In August

of the same year the king wrote to Lord Somers from Loo, explaining to him the proposed treaty, desiring his opinion upon the several articles, and commanding him to forward, in the most secret manner, to him in Holland, a formal commission in blank under the great seal, appointing persons to treat with the commissioners of the French government. Lord Somers, after communicating with Lord Orford, the Duke of Shrewsbury, and Mr. Montague, as he had been authorized to do, transmitted to the king their joint opinion, which suggested several objections to the proposed treaty, and forwarded at the same time the required commission. Lord Somers undoubtedly disapproved of the partition treaties: and it was his duty, as a responsible minister of the crown, to have expressed his opinion to the king explicitly when the opportunity was offered to him; but this was the 'head and front of his offending.' He had neither proposed nor advised the measure: and the treaty was afterwards negotiated abroad, and finally signed by plenipotentiaries of France and England without any further communication with him.

Though the power of the house of commons at this period was increased, its character as a deliberative assembly was much depreciated: 'very little of gravity, order, or common decency,' says Burnet, 'appeared among them:' but the acrimony of the debates in the house on the Partition Treaty is almost unexampled in the history of parliament. One of the members termed it 'a felonious treaty:' which, considering that the king was universally known to be, from the beginning, personally engaged much more than his ministers in the transaction, was perhaps the most indecent expression ever used in the unbounded licence of parliamentary debate. The king himself was so offended and exasperated by it, that he passionately declared, that had his rank permitted, he would have demanded personal satisfaction for the insult. All the papers relating to the negotiation were scrutinized with malignant activity; and the character and conduct of every individual in the slightest degree connected with the transaction were attacked with sarcasm, ridicule, and the most unmeasured abuse. In the midst of this raging commotion of faction Lord Somers desired to be heard in the house of commons in his own defence. His

* The mode in which this negotiation was personally conducted between the king, the Earl of Portland, who was then ambassador in France, and Count Tallard, the French agent, is fully developed in Williams's correspondence with Secretary Heinsius in the Hardwicke State Papers, vol. ii.

application being granted, he was introduced within the bar, and addressed the house in his usual calm and dignified style of reasoning, declaring fully and perspicuously the motives of his conduct. He admitted 'that the king had asked the advice of his confidential servants upon this occasion; and that his majesty had even informed him, that if he and his other ministers thought that a treaty ought not to be made upon such a project, that the whole matter must be let fall, for he could not bring the French to better terms.' He further told the house, 'that when he received the king's letter from Holland, with an order to send over the necessary powers, he conceived that he should be assuming too much upon himself if he caused any delay in the progress of so important a treaty, considering the precarious state of the health of the king of Spain; for if the Spanish king died before the treaty was completed, he would not have been justified in delaying the transmission of the powers, as the king's letter amounted in fact to a warrant: it was not indeed an actual and formal warrant, but in its effect a substantial and positive command; that, at all events, he did not think it became him to endanger the public interest by insisting on a point of form, at a very critical time, and when the greatest despatch was requisite; that, nevertheless, he had written his own opinion very fully to his majesty, objecting to several particulars in the treaty, and proposing other articles which he thought were for the interest of England; that he thought himself bound, by the duty of his office, to put the great seal to the treaty when it was concluded; and that, in the whole course of the transaction, he had offered his best advice to his sovereign as a privy councillor, and as chancellor had executed his office according to his conception of his duty.' This address, delivered with much eloquence, and a simplicity and earnestness of manner which were peculiar to Lord Somers, produced so deep an impression upon the house, that it was believed by Walpole, who was present*, that had the question upon his impeachment been put immediately, it would have been negatived by a large majority. After he had withdrawn, however, a warm debate ensued, in the course of which the favourable disposi-

tion produced by Lord Somers's statement was entirely effaced: it ended in a resolution, carried by a majority of only ten, 'that John, Lord Somers, by advising his majesty to conclude the Treaty of Partition, whereby large territories of the Spanish monarchy were to be delivered up to France, was guilty of a high crime and misdemeanour.' Similar resolutions were passed against Lord Portland, Lord Orford, and Mr. Montague, the latter of whom had been lately raised to the peerage with the title of Marquess of Halifax; and all of them were impeached at the bar of the house of lords.

Greater unfairness and partiality can hardly be conceived than were exhibited by the house of commons in the institution of these proceedings. The Earl of Jersey, a tory, was beyond all comparison more active than Lord Somers in the negotiation of the Partition Treaties; he had in fact signed the treaties, as plenipotentiary, with the Earl of Portland: yet, though he held an office in the government, and was near the king's person, he was not impeached, nor was there any motion made for his removal. Sir Joseph Williamson, likewise a tory, and a privy councillor, who had signed the treaty as a plenipotentiary, was also passed over, and remained unimpeached in his office. The commons, however, were fully aware that they could not secure a majority in the house of lords to forward their partial and factious schemes, and, in all probability, never intended to proceed seriously with the impeachment. They therefore passed a resolution of censure, immediately after the votes of impeachment, in the form of a motion, for an address to his majesty 'to remove the Lords Somers, Orford, Portland, and Halifax, from his presence and councils for ever.' The flagrant inconsistency of the commons in urging the king to punish before trial, and to inflict, without a hearing, a heavy censure upon persons for conduct which they had themselves placed in a course of judicial investigation, was so obvious to the lords, that they immediately voted an address to the king, praying 'that the lords impeached at the bar of their house might not have any censure passed upon them till they were tried upon the impeachments, and judgment was given according to the usage of parliament and the law of the land.'

* Coxe's Life of Sir Robert Walpole, vol. i. p. 25.

The commons, having carried their resolution for a censure upon the impeached lords, which they were satisfied would have the effect of excluding them from the public service, became indifferent to the progress of the impeachment. Several weeks elapsed during which not a single step was taken, and it was not until a message had been sent from the lords to remind them of the necessity of proceeding, that the formal articles of impeachment were prepared and presented. The articles against Lord Somers principally charged him with having affixed the great seal to the blank commission for the Partition Treaty sent to the king in Holland, and afterwards to the treaty itself; with having shared in the projected piracy of Captain Kidd; and with having received various grants from the crown for his own personal emolument. To each of these articles he answered promptly and fully. To the two first he replied the facts of each case as above related; and in answer to the third he admitted that the king had been pleased to make certain grants to him, but denied that they had been made in consequence of any solicitation on his part. After many frivolous delays and repeated disputes between the two houses, a day was peremptorily fixed for the trial of the impeachment. The lords went down to Westminster Hall in the form usual on such occasions; the articles were first read, and then the answers to them; but the commons not appearing to prosecute their articles, the lords returned to their own house, and, after a long and warm debate, resolved, by a considerable majority, to acquit Lord Somers of the charges, and to dismiss the impeachment.

The conduct of the lords in the course of these proceedings received the general approbation of the nation, whilst the violence and folly of the tories in the house of commons were universally condemned by all thinking people, and the character of that party was much lowered in public estimation. The eyes of the king, too, were now opened to his error in having changed his ministry at so critical a period. He found, to his infinite disquietude, that, instead of enabling him to manage the commons as they had promised, the tory leaders had rendered them far more intractable and imperious than before; and that instead of sincerely endeavouring to promote

peace abroad and quiet government at home, each man was pursuing his own paltry objects of private passion or revenge. The Earl of Rochester was at the head of the tory administration, and the king is said to have repeatedly declared that the year in which that nobleman directed his councils was the most uneasy of his life, and to have resolved to disengage himself quickly from him, and never to return to him any more*.

The whole of the summer of 1701, the king spent at Loo, in Holland, in a very feeble state of health. At the beginning of the month of September, he wrote from thence to Lord Sunderland, expressing his disposition to change his ministry, and earnestly desiring his advice generally upon the state of his affairs in England*. Lord Sunderland, in his reply†, which is a most remarkable document, advises the king, in decided terms, to dismiss his tory ministry, 'who,' he says, 'grow more hated every day, and more exposed.' After reminding the king of the difficulties into which he had been brought by the tories, and the failure of all the hopes they had held out to him, Lord Sunderland concludes this singular letter in the following manner: 'But at last what can the king do? Let him come into England as soon as he can, and immediately send for my Lord Somers. He is the life, the soul, and the spirit of his party, and can answer for it; not like the present ministers, who have no credit with theirs, any further than they can persuade the king to be undone. When his majesty speaks to my Lord Somers, he ought to do it openly and freely, and ask him plainly what he and his friends can do, and will do, and what they expect, and the methods they would propose. By this the king will come to make a judgment of his affairs, and he may be sure that my Lord Somers will desire nothing for himself, or any of the impeached lords, but will take as much care not to perplex the king's business as can be desired; and if he can do nothing his majesty shall like, he will remain still zealous and affectionate to his person and government. This is thought to be the best way the king can take, and, perhaps, the only means of being able to resolve with reason. It should be

* *Barnet's Own Times*, vol. ii. p. 280.

† *Hardwicke State Papers*, vol. ii. p. 443.

‡ *Ibid.* p. 444.

considered that, by the present ministry, the tories have infinitely lost their credit, and the others have in proportion gained. It is a melancholy thing, that the king, who has more understanding than any body who comes near him, is imposed on by mountebanks, or by such as he himself knows hate both his person and government !

In conformity with the advice of Lord Sunderland, the king immediately wrote to Lord Somers, desiring him to communicate unreservedly to him through Lord Galway his sentiments upon public affairs, and assuring him of the continuance of his friendship*. Lord Somers, upon this communication, drew up certain heads of arguments for a recurrence to a whig administration, and the immediate dissolution of the parliament, which were afterwards communicated to the king. The affairs of the nation were, at this precise point of time, in an extremely critical situation. On the 16th September, 1701, while this negotiation was proceeding between the king and Lords Sunderland and Somers, the abdicated monarch, King James II., died at St. Germain's. The death of an exile, who, for several years, had extinguished all ambition of regaining the throne of England in the austeries and extravagances of religious fanaticism, would have been entirely insignificant, had it not derived importance from the events which ensued, and the peculiar crisis of the affairs of England. Immediately upon his death, the prince his son was proclaimed by the officers of his household king of England, with the title of James III.; and a few days afterwards the French king, in opposition to the advice of his ministers, and in violation of the arrangements of the treaty of Ryswick, by which it was expressly stipulated that he should not disturb the king of Great Britain in the peaceable possession of his dominions, gave orders that he should be publicly recognized in that capacity. On receiving intelligence of the event, the king of England despatched a courier to the king of Sweden, who had guaranteed the treaty of Ryswick, to complain of this obvious infraction; and he sent an express to the Earl of Manchester, then his ambassador at the French court, commanding him to return to England without taking his audience of

leave. Though it does not seem to have been intended by the king of France to have this effect, the acknowledgment of the title of the abdicated house resembled a declaration of perpetual war; at all events, it furnished William with abundant reasons for joining the other powers of Europe in resisting the grasping ambition of Louis. The hostile effect which this injudicious act produced upon the feeling of the people of England was instantaneous and universal. William returned to England in November, and upon his arrival addresses from all parts of the country poured in upon him, expressive of approbation of his conduct in having at once assumed a hostile attitude, of loyalty and devotion to his title, and of a determination to support him in maintaining his just rights against all foreign dictation or invasion. Such was the state of feeling in the nation at large upon the king's return, in which, however, those who occupied the great offices of government by no means cordially participated. Upon this the king at once determined to adopt the advice of Lord Somers, by calling a new parliament, and changing the ministry at the earliest practicable moment. With this intention a proclamation was issued immediately after his arrival, dissolving the parliament and summoning the new parliament to meet on the 30th of December, 1701. In the mean time various changes were made in the ministry, to the disadvantage of the tory party; it is even said that the seals were at that time offered to Lord Somers, and upon his hesitating, and suggesting the possibility of circumstances arising which might bring back the opposite party into power, the king passionately exclaimed, 'Never, never, never!'.* Lord Somers, however, did not at this time become a member of the government, though he was on the point of being restored to office. There is no doubt that he composed William's last address to his parliament, which Burnet calls 'the best speech that he or, perhaps, any other prince ever made to his people,' Lord Hardwicke having seen the draft of it in Lord Somers's handwriting amongst the manuscripts destroyed by fire at Lincoln's-inn. The simple eloquence of this celebrated speech, and the sagacity with which every line of it is weighed

for the purpose of diverting the stream of popular excitement from factious objects, and permanently directing it in an useful channel, amply justify the general applause with which it was received by contemporaries, and the praise bestowed upon it by historians. Its effect upon the nation was astonishing. Both houses of parliament presented animated and affectionate addresses to the king, and the commons immediately voted ample supplies with a degree of zeal and unanimity which were without example since the revolution. 'The whole nation,' says Mr. Burke*, in allusion to this general enthusiasm, 'split before into an hundred adverse factions, with a king at its head evidently declining to his tomb,—the whole nation, lords, commons, and people, proceeded as one body, informed by one soul.' In the mean time the arrangements for the formation of a whig administration were proceeding; but before they could be completed, the death of the king, in March, 1702, put an end to the project, and on the accession of Queen Anne, a sort of mixed administration was formed, compounded of the elements of both parties, but in which the tory interests prevailed, and from which Lord Somers and the most eminent leaders of the whigs were wholly excluded.

The state of parties for several years after the accession of Queen Anne prevented Lord Somers from taking any managing part in the government. He spent much of his time at this period in retirement at his seat near Cheshunt, in Hertfordshire, and employed his leisure in antiquarian pursuits, and general literature and science. 'He was very learned,' says Burnet, 'in his own profession, with a great deal more learning in other professions—in divinity, philosophy, and history.' He is said to have possessed an extensive collection of medals and other historical curiosities, and to have expended large sums of money in the purchase of rare books, prints, and pamphlets.

But though he was excluded from the administration, Lord Somers was a regular and punctual attendant upon his duties in the house of lords. His name is rarely absent from the list of peers who are recorded daily on the journals as present in their places; and he appears, by the same authority, to have been a member of almost all the lords' com-

mittees appointed at this period. He took a prominent part, during the first parliament of Queen Anne, in the year 1702-3, in the debates upon the bill against occasional conformity. By this bill it was proposed to enact that persons who had only *occasionally* conformed to the church of England, by taking the sacrament and tests, required by the statute of Charles II., previously to entering upon offices of trust, and had afterwards frequented any meeting of dissenters, should be disabled from holding their employments, and be subjected to a penalty of 100*l.*, and 5*l.* for every day in which they acted in their offices, after having been at such a meeting. This bill, after much discussion, passed the house of commons by a considerable majority, but the measure met with a warm, and eventually a successful opposition in the lords. The majority of the bishops, including Burnet, who made a powerful speech against it, objected to the bill on a conscientious persuasion that the principles upon which it proceeded were unjust to the dissenters, and would have the effect of promoting injurious hostility between that body and the church of England. In consequence of this opposition various alterations were suggested, to which the commons refused to agree, and demanded a free conference. Lord Somers was one of the managers for the lords at this conference, and supported the proposed amendments. After much altercation each house adhered to its opinion, and the bill was consequently lost. It was, however, revived in the following session, with some modifications, and again passed the house of commons, but in the house of lords it was rejected at the second reading by a majority of twelve voices; Lord Somers, on this occasion, expressing a strong opinion against the policy and justice of the measure, and voting in the negative. Swift says, that Lord Somers told him that, 'if he had the least suspicion that the rejecting this bill would hurt the church, or do a kindness to the dissenters, he would lose his right hand rather than speak against it.'

In the following year, 1704, the popular project of appropriating the revenue of first-fruits and tenths to the increase of the incomes of the poorer clergy was proposed by the queen to parliament, and though the name of Lord Somers does not expressly appear, there is rea-

* Letters on a Regicide Peace.

son to believe that he was mainly instrumental in carrying it to a successful issue. This branch of the revenue was derived from an impost paid in catholic times to the pope upon each admission to a benefice, which, upon the Reformation, was vested in Henry VIII., and from that time formed a part of the income of the crown. It was not, however, collected as other parts of the royal revenue, but was received from the clergy by the archbishops and bishops, and set apart as a fund from which pensions to court favourites were paid. At the time it was given up by Queen Anne, Lord Sunderland was in the enjoyment of a pension of 2000*l.* a-year for two lives, charged upon this fund. Bishop Burnet had long directed his attention to this means of increasing the incomes of the poorer clergy, and had frequently, though unsuccessfully, urged upon King William the measure now adopted by the queen; and it appears from the following letter to Burnet, written during the progress of the arrangement of the change of ministry immediately before the king's death, that he found in Lord Somers an active coadjutor in his enlightened and benevolent scheme:—

‘ Nov. 22, 1701.

‘ MY LORD,—I acknowledge the honour of your lordship's letter of the 17th, with great thankfulness; I wish it may be in my power to contribute to the excellent design you propose. No man will enter into it more willingly, nor shall labour in it more heartily. The point of the first-fruits and tenths is what I have proposed several times, with much earnestness, but without success. When I have the happiness of seeing your lordship, we shall, I hope, discourse at large upon the whole subject. In the mean time allow me to assure you, that I am, with great and sincere respect, my lord,

‘ Your Lordship's most obedient

‘ Humble Servant,
‘ SOMERS.’

Soon after the meeting of the new parliament, called in October, 1705, a motion was made in the house of lords, by Lord Haversham, whom the Duchess of Marlborough calls a ‘great speech-maker and publisher of his speeches,’ for an address to the queen, praying her majesty to invite the Princess Sophia,

the presumptive heir to the crown, to reside in England. Though this proposition was in fact a mere manoeuvre of faction, and intended by the tories to drive their opponents into the dilemma of offending the queen by acquiescing in it, or of injuring their reputation with the princess and the electorate family by opposing it, arguments of great plausibility were used in its support. It was urged that there were no means so effectual to secure the peaceable succession to the throne, as by having the successor on the spot to assume and maintain his right. In answer to this, the whig speakers in the house of lords, among whom was Lord Somers, represented the inconveniences and jealousies which must arise from the establishment of rival courts in the same country; suggesting also the policy and propriety of retaining the successor in some degree in a state of dependence on the reigning sovereign. In the end, the Earl of Wharton brought in a bill empowering a council of regency to act upon the contingency of a demise of the crown, until the arrival of a successor, which was received with much applause by the people generally; and though a factious opposition was raised to it by the tories, it passed through both houses of parliament without a division. The Electorate family were fully satisfied by the introduction of another bill by the same party, which naturalized all the descendants of the Princess Sophia, wherever born; and the Earl of Halifax being despatched to Hanover with these acts after they had passed, Lord Somers and several other whig peers sent letters to the Electoral Court, in vindication of their conduct, which entirely secured an amicable understanding. The princess said that ‘she was charmed to see the respect and affection shown by the parliament to her majesty;’ and Lord Somers, with much dexterity, suggested, that ‘if the invitation had been assented to with reluctance on the part of the queen, it might have given rise to unkindness which in the end might have proved very fatal.’ Thus, the scheme of the tories to embroil their opponents with the queen or the electress totally failed; and on the contrary, the queen, who was present during the debates, was so offended at the disrespect to her person displayed in the speeches of some of the tory lords, that from that moment (ac-

cording to the representation of the Duchess of Marlborough) she began to indicate a disposition to become really reconciled with the whigs. She had previously to this period introduced several persons into the ministry who were notoriously attached to that party; and it was about this time that she commissioned Lord Godolphin to assure the leaders of the whigs that she intended to place herself and her affairs in such hands as they should approve.

A cry of danger to the established church having been raised in the course of the debates in parliament on Lord Haversham's motion, Lord Halifax moved in the house of peers that a day should be appointed to inquire into the grounds of this pretended danger. Upon this motion a warm debate ensued, in which Lord Somers delivered a manly and impressive speech, censuring the authors of such reports as actuated solely by the design of embroiling the nation at home, and impeding the judicious policy of the government abroad. He concluded his speech by an animated eulogium upon the conduct of the existing administration*. The debate terminated in a resolution, carried by a majority of 61 to 30 voices, 'that the church of England, as by law established, which was rescued from the extremest danger by King William III. of glorious memory, is now in a most safe and flourishing condition, and that those who spread reports to the contrary are enemies of the queen and her government.' This resolution was also adopted by the commons, and the effect of it was incorporated in an address to the queen, who declared her satisfaction at finding both houses ready to concur with her in putting a stop to these false and malicious reports.

Lord Somers had, since his retirement from office, applied himself with his characteristic industry to the arrangement of the details of a measure intended to remedy several gross defects and abuses in the practical machinery of the courts of chancery and common law; and towards the end of this session of parliament he introduced into the house of lords a 'Bill for the amendment of the Law and better advancement of Justice.' The particulars of this valuable enactment are of too technical a nature to be interesting, or even

perhaps intelligible, to unprofessional readers. Its general object is to prevent a delay or failure of justice in consequence of formal objections; and in comparison with the previous condition of our courts it must be acknowledged that it introduced most important improvements into the municipal law of England by cutting off, or applying to useful purposes, a vast number of excrescences which previously disfigured the administration of justice. It appears, however, that Lord Somers experienced in no small degree the difficulties and embarrassments which have impeded those who, in more modern times, have employed themselves in legal reforms. The measure, as at first introduced, was of much more extensive operation; it readily passed the house of lords, and received the approbation of the Lord Keeper and the Judges; but in passing through the commons, it was found, says Burnet*, 'that the interest of under officers, clerks, and attorneys, whose gains were to be lessened by the bill, was more considered than the interest of the nation itself; several clauses, how beneficial soever to the subject, which touched on their profit, were left out by the commons.' This statute is particularly mentioned in terms of approbation in the queen's speech at the conclusion of the session in March, 1706†.

In the course of this session of parliament the way was opened to the final arrangement of the union with Scotland, a measure of infinite importance to both countries, which had been long considered and discussed by the most enlightened writers and statesmen, and was at length conducted to its successful completion principally by the learning, activity, and wisdom of Lord Somers.

About a century before the time of which we are speaking, the accidental union of the crowns of England and Scotland under James I. naturally suggested the notion of a permanent consolidation of the two countries. [It seems, indeed, extraordinary that a measure of this kind should not have been effected, or at least attempted, at an earlier period in the case of countries so peculiarly pointed out by nature for union; for, to use the words of Bacon, 'There be no mountains nor races of

* Coxe's *Memoirs of Marlborough*.

• *Own Times*, vol. ii. p. 439.
† *Chandler's Commons' Debates*, vol. iii. p. 473; -

hills, there be no seas or great rivers, there is no diversity of tongue or language that hath invited or provoked this ancient separation and divorce*.' The value of a complete political union to countries naturally united by climate, language, contiguity, of situation, and consequent identity of interest with respect to foreign enemies, is admirably illustrated by Bacon in his several Memorials on this subject; and his practical arguments upon the increase of power produced by union in such circumstances amply justify his expression to the king, that 'England, Scotland, and Ireland, well united, were such a trefoil as no other prince weareth in his crown†.' In conformity with this opinion, a proposal for an union with Scotland was laid by James I., before his first and second parliaments, and commissioners were appointed to arrange its details; but though urged forward with the utmost zeal and even impatience by the king, and earnestly and actively promoted by the powerful intellect of that great man whose writings had suggested and matured the scheme, and who says, 'that the labour of the commission rested most upon his hand,' the project of an incorporating union entirely failed, and nothing resulted from the attempt beyond the abolition of the hostile laws previously subsisting between the two kingdoms.

The practicability of the union had also been frequently debated since the reign of James I. It was much discussed in the Scotch Parliament or Convention assembled at Edinburgh, upon the arrival of the Prince of Orange; and at that time commissioners were appointed in Scotland to arrange the terms of a treaty. Various obstacles impeded the progress of the measure during the whole reign of William; but the last public act of his life was to send a message‡ to his parliament, recommending to them, in the most earnest manner, to proceed with the treaty. The reader will remember that at this time Lord Somers was in the most intimate confidence of the king. William died eight days after this message was delivered; and his successor, in her first speech to the same parliament, strongly urges the subject upon their attention. An act

was accordingly passed without delay, appointing commissioners to conduct the treaty on the part of England.

The state of parties in both countries, however, prevented the further progress of the measure at that period; but in March, 1705, an act of parliament was passed, entitled 'An act for the effectual securing of the kingdom of England from the apparent dangers that may arise from several acts lately passed in the parliament of Scotland*.' By one of the provisions of this act, the queen was enabled to appoint commissioners for England to treat with commissioners for Scotland, for an union between the two kingdoms. The proceedings of these commissioners were directed by the statute to be reduced into writing and submitted to the queen and the parliament of each kingdom, to whom the entire consideration of them, and the allowing or disallowing the whole or any part thereof, were expressly reserved. In her speech at the opening of the ensuing parliament in October, 1705, the queen again referred to the subject, stating, that commissioners had lately been appointed by the Scottish Parliament, and that she intended in a short time to cause commissions on the part of England to be made out. Accordingly, commissioners were soon afterwards appointed by the queen, and the name of Lord Somers appeared in the commission amongst those of the wisest statesmen of the time, though he was not then a member of the administration. The delegates for both countries assembled at Whitehall on the 15th of April, 1706, and commenced their deliberations with the solemnity which the magnitude of the occasion deserved. The Scottish commissioners, and, indeed, a considerable party in Scotland, were strongly impressed in favour of a federal union similar to that which then existed in the United Provinces and in the cantons of Switzerland. The English commissioners, on the other hand, insisted upon a substantial incorporation, by which the national interests should be consolidated and identified into one kingdom, and all distinctions between the two countries, with respect to representation and government, should be entirely and for ever abolished. This was the main point of discussion between the two parties; but in the end, the Scotch commissioners agreed to

* 'Brief Discourse of the Happy Union of the Kingdoms,' &c.

† Letter to the King on Presenting his Discourse touching the Plantation of Ireland.

‡ Chandler's Commons' Debates, vol. iii. p. 189.

* 3 and 4 Anne, cap. vii.

the proposal of an incorporating union. On the 23d of July, 1706, the articles being fully arranged and completed, with entire unanimity on both sides, were formally presented to the queen, who expressed her acquiescence and satisfaction, declaring, that 'she should always look upon it as a particular happiness, if a project, which promised so great a security and advantage to both kingdoms, could be accomplished in her reign*.'

The stipulations of this treaty are well known; and as the part taken by Lord Somers in the discussion of them by the commissioners is not recorded, it would be quite unnecessary to repeat them in this memoir.

Generally speaking, the articles seem to be highly favourable to Scotland in all substantial respects, though in some points they were thought to derogate from the national dignity and independence. In the sharing of the public burdens assigned to Scotland, that country had a decided advantage; less than the fortieth part of the public taxes were to be levied in Scotland; and yet, contrary to the maxim generally received, that in framing a government representation should be in proportion to taxation, the Scotch were offered nearly one-eleventh part of the legislature. On the other hand, the Scotch peerage, as an independent body, were deprived of their privileges as lords of parliament, the whole community being in future to be represented in the English parliament by sixteen elective peers and forty-five members in the house of commons. The debates in the parliament of Scotland upon the ratification of this treaty, displayed exertions of eloquence and argument rarely excelled in any deliberative assembly. The speeches of the celebrated Fletcher of Saltoun, and Lord Belhaven, against the union, and that of Seaton of Pittmedden in favour of it, are the most remarkable. At length, however, by the great personal address of the Duke of Queensberry, the opposition of some of the most influential objectors to the measure was removed, and the treaty, as originally framed, and without any material alterations, received the solemn sanction of the Scottish parliament.

The English parliament met on the 3d of December, 1706; and on the 28th

of January following, the queen announced in the house of lords the ratification of the treaty of union by the parliament of Scotland. Very shortly afterwards, a bill was introduced into the house of commons, ratifying the same on the part of England, which passed through the commons with great facility and very little discussion; so much so, that Burnet says 'it was thought they interposed not delay and consideration enough, suitable to the importance of so great a transaction.' The debates in the house of lords, in which Lord Somers acted the most conspicuous part, in the defence of the union, were longer and more solemn; but all the articles were carried by large majorities, and on the 6th of March, 1706, the bill received the royal assent.

Thus was this great work, of the accomplishment of which most of the wisest politicians of that day despaired, and which none expected to see effected without a lingering negotiation of many years, commenced and completed within the compass of a single year. In her speech to the lords and commons before the passing of the bill, the queen expresses herself in the following terms:—'I consider this union as a matter of the greatest importance to the wealth, strength, and safety of the whole island; and, at the same time, as a work of so much difficulty and nicety in its own nature, that till now all attempts which have been made towards it in the course of above a hundred years have proved ineffectual; and therefore I make no doubt but it will be remembered and spoken of hereafter to the honour of those who have been instrumental in bringing it to such a happy conclusion.'

In truth, the incorporation of two sovereign kingdoms, not by force or hostile aggression on the part of either, but by the express consent of both, founded upon the conviction of mutual advantage, was without a precedent in the history of the world; but the success of the experiment, now practically confirmed by the experience of more than a century, depended almost entirely upon the skilful arrangement of the details. The merit of projecting the scheme has been generally ascribed to Lord Somers*; but it was in the laborious discussion of particular articles, upon which the political and

* Chandler, vol. iii. p. 479.

* Burnet's Own Times, vol. ii. p. 458.

commercial interests of the two nations appeared to conflict,—the patient and skilful management of objections passionately suggested by national pride and prejudice, that his high authority, his calm temper, and lucid reasoning, were most conspicuously useful. If the magnitude of the interests at stake, the weight and number of the difficulties interposed by faction in both countries, and the eminent and acknowledged success of the measure are duly considered, it will be readily admitted that there are few statesmen in the history of this country whose claims to the respect and gratitude of posterity are better founded than those of Lord Somers, for his services in the accomplishment of the union with Scotland.

In the ensuing session of parliament, a bill passed the house of commons for abolishing the privy council of Scotland. It was proposed, in the house of lords, to give it a continuance for several months after the passing of the bill. This proposition was powerfully and successfully opposed by Lord Somers. The heads of his speech on this occasion are still in existence*, being preserved amongst the few fragments which were saved from the fire in Lincoln's Inn, already alluded to. His arguments in this speech against a separate council for Scotland are extremely forcible and curious, and are particularly interesting in the present day, when the question of the policy of a distinct government for Ireland is strangely brought under discussion. He declares that 'he is heartily desirous of making the union entire and complete, but that it cannot be perfect while two political administrations subsist. The true argument for the union was the great danger to both kingdoms from a divided state. The advantage of Scotland is to have the same easy access to the prince as England, to be under the immediate personal care of the prince, and not to owe their protection and countenance to any subordinate institution.' 'This,' he says, 'was my argument for the union; and now if a distinct administration continue, the marks of distinction will continue; and Scotland, having now no parliament to resort to, will be in a worse state than before. I wish North Britain as happy as England; I meant it should be so in the union; and I will always do what

lies in my little power that it shall be really so. I should think the true way to make the union well relished in Scotland is to let that country see plainly that England means no otherwise than fairly by them, and desires they should be in the very same circumstances they are themselves. In the union of Poland and Lithuania, by keeping up their distinct great offices of state and their distinct diets, though there be one general diet for their united country, their former manners of division are continued, and have occasioned perpetual dissensions and distractions in that imperfectly and unskilfully united country, so that they are much more unhappy than if they had still remained divided.' Upon the suggestion that it was only proposed to continue the Scotch privy council a short time, he asks, 'If it be a good thing, why is it not to be continued? If it be the desire of Scotland, why show it them only to be taken away? If they are afraid of the council, why should they be terrified with it, when it is not meant to continue?' The whole tenor of the reasoning in this admirable speech is equally clear and convincing; and the inconvenience and oppression occasioned in the reign of Queen Elizabeth, and earlier periods of our history, by the existence of distinct councils for various districts in England, with powers delegated by the crown, but beyond the personal control of the sovereign, are illustrated in the most ingenious and masterly manner.

In the early part of the year 1708, a change took place in the character of the ministry, by the resignation of Harley and the appointment of Mr. Boyle in his place, as secretary of state. Lord Somers had often announced his resolution never to accept any office of state while Harley continued in administration; but upon the removal of that obstacle, it became an object of the first importance to the whigs to press him into the royal service. Nor was this object opposed by the leaders in the cabinet; for the mildness and candour of his character, and his steady attachment to the principles of the revolution, had won the respect even of his rivals, and he was personally esteemed by both Lord Marlborough and Lord Godolphin. But the proposition of placing him in the administration was strenuously resisted by the queen. In a letter to Lord Marlborough* she de-

* Hardwicke State Papers, vol. ii. p. 473.

* Coxe's Life of Marlborough, vol. ii. p. 423.

clares that, 'it would be utter destruction to her to bring Lord Somers into her service, and was what she never could consent to.'

Besides political prejudices, it is probable that the queen had a strong domestic reason for her objection. Prince George of Denmark, the husband of the queen, though he interfered little in public business, had always been attached to the tory party, and had long entertained and expressed a particular aversion to Lord Somers. This antipathy might be probably traced to a circumstance which occurred in 1703, shortly after the queen's accession to the throne. To a bill for enabling the queen to settle a revenue upon the prince, in case he should survive her majesty, it was proposed to add an express exemption of the prince from the operation of the clause in the act of succession which incapacitated foreigners from being members of the privy council, from sitting in parliament, and from holding offices under the crown. This proposition was urged upon the attention of parliament by the queen, and gave rise to much warm discussion in the house of lords; and though it was ultimately adopted by a majority, Lord Somers, who took a prominent part in the debate, with several other peers, signed a protest in the journals against the decision of the house*.

It was probably from a desire to avoid offence to the prince, that the queen, who had expressed in decided terms her sense of the obligations of the country to Lord Somers for his services in promoting the union, had objected to introduce him into the administration. The death of the prince in October, 1708, removed this objection; and, shortly afterwards, Lord Somers was advanced to the post of president of the council, though still with reluctance and hesitation on the part of the queen. 'The great capacity and inflexible integrity of this lord,' says Burnet†, 'would have made his promotion to this post very acceptable to the whigs at any juncture, but it was most particularly so at this time, for it was expected that propositions for a general peace would be quickly made; and so they reckoned that the management of that upon which not only the safety of

the nation, but of all Europe depended, was in sure hands when he was set at the head of the councils, upon whom neither ill practices nor false colours were like to make any impression. Thus the minds of all those who were truly zealous for the present constitution were much quieted by this promotion.'

But the sanguine hopes of the whig party were not realized by the event. Whether it was to be attributed to the declining health of Lord Somers, which, at this period, in a great degree incapacitated him for business, or to the embarrassing intrigues of Harley, afterwards Lord Oxford, with the queen, or the want of harmony and consistency which prevailed among the members of the administration, is uncertain; but there is no doubt that the government, during the two years that it remained under the direction of the whigs, exhibited but few marks of vigour or discretion. The treaty for a general peace proved entirely abortive; the war became decidedly unpopular in England; the general confidence of the whigs in their party wavered; and the public funds, which even in those times had begun to be the measure of the degree of public confidence in the government, fell rapidly and alarmingly.

In this unpromising state of things, 'the foolish and violent prosecution' of Dr. Sacheverel, as it is justly termed by Lord Bolingbroke, if it did not immediately induce the queen to change the ministry, at all events furnished her with a plausible and popular pretext for the dismissal of the whigs. Though Lord Somers was present at the trial, and gave his vote against Dr. Sacheverel, Dean Swift declares that he had heard him profess that his opinion was against this ill-judged impeachment, and that he foresaw it would end in the ruin of his party. The proceedings against Sacheverel were brought to a conclusion at the end of March, 1710, and immediately afterwards the parliament was prorogued. In the course of the ensuing summer a sudden and total change of ministry took place; and Lord Somers, finding that the queen had withdrawn her confidence from him and treated him with coldness and reserve, retired from his office of lord president of the council, and was succeeded by the Earl of Rochester.

During the whole of the long session of parliament after his retirement from

* *Lords' Journals*, Jan. 19, 1702-3. Burnet's *Own Times*, vol. ii. p. 339.

† *Own Times*, vol. ii. p. 516.

office, it appears from the journals that he attended constantly upon his duty in the house of lords, being rarely absent from his place, and much employed in committees and other active parliamentary business. He was present during the debates respecting the Earl of Peterborough's conduct in Spain, in January, 1711, in the course of which reflections being cast upon the Lords Galway and Tyrawley, and a vote of censure being attempted against them, those noblemen presented a petition praying for time to answer the charges before the lords came to any determination. This was resisted by the ministers as an improper interference with the debates of the lords; but Lord Somers declared, with some indignation, 'that the petitions were neither improper nor given in at an improper time; that it would be too late for the petitioners to apply to the lords after they were come to a resolution; that he hoped it would never be found in the book of that house, that when the lords were going to proceed to a censure, they refused to hear those that were to be affected by it; that the Lords Galway and Tyrawley had a right to be heard and clear the matters of fact as subjects of Great Britain; and that it was but natural justice that men in danger of being censured should have time to justify themselves*.' The petitions were, however, rejected by the house; and a vote of censure was afterwards passed upon Lords Galway and Tyrawley; but a strong protest was entered upon the journals against both these resolutions, signed by thirty-six peers, amongst whom were Lord Somers, the Duke of Marlborough, and Lord Cowper, the late chancellor. Lord Somers also signed protests against the resolution of the lords approving of the Earl of Peterborough's conduct in Spain, and against several resolutions passed in the course of the same session censuring the measures of the late ministry respecting the prosecution of the war†.

At the commencement of the next session of parliament, in December, 1711, there were some rumours of a change of ministry. Swift says‡ that 'Bolingbroke and he were both of opinion that the queen was false,' and mentions a report that the whole matter

was arranged between her and the whigs, and that Lord Somers was to be treasurer.' In a few days, however, these apprehensions were removed, and Lord Oxford expressly assures Swift that 'all would be well, and that he should fear nothing.'

In the early part of the year 1712, Lord Somers suffered severely from illness, which disabled him from appearing in the house of lords for a considerable portion of the session of parliament. At this point, perhaps, his political life may be considered as closed; for though he afterwards attended in parliament for several sessions, and was present upon most occasions of importance or unusual interest, he never again took a prominent part in the debates. He was present at the debate on the Earl of Findlater's motion for repealing the union with Scotland, in June, 1713, and voted with the small majority by whom that proposition was negatived. In 1714 the celebrated Schism Act was passed, by which all schoolmasters and instructors of youth were required to subscribe an acknowledgment before the ordinary, that they conformed to the liturgy of the church of England, under pain of imprisonment for three months; and upon being convicted of teaching without such subscription, were made liable to penalties and imprisonment. Against this unjust and unnecessary measure—which Lord Wharton declared to be 'more like a decree of Julian the apostate, than a law enacted by a protestant parliament,'—a protest was entered on the journals, and signed, amongst other peers, by Lord Somers. The reasons attached to this protest contain an excellent summary of the arguments against all religious persecution, and a perspicuous statement of the danger of irritating the dissenters against the church of England, and of promoting religious animosities in the critical state in which the Protestant succession was then placed. Fortunately, the death of the queen on the 1st of August, 1714, the very day on which the schism bill was to take effect, prevented its being brought into practical operation. On the accession of George I., a total change of ministry took place: the state of Lord Somers's health disabled him from accepting any official employment, but he took his seat in the cabinet council as a member of the new administration.

In the revolutions of the wheel of

* Chandler's *Lords' Debates*, vol. ii. p. 309.

† See *Lords' Journals*, Jan. and Feb. 1710-11.

‡ Swift's *Journal*, Dec. 9, 1711.

party, it was now Lord Somers's fate, not only to find himself once more restored to office, but to witness the downfall of that intriguing statesman whose insidious schemes had undermined the whig ministry in 1710, and to whom, both personally and politically, he had declared perpetual and uncompromising hostility. But notwithstanding his dislike to Lord Oxford, there is reason to believe that Lord Somers, and also Lord Halifax and Lord Sunderland, were opposed to the violent and impetuous prosecutions which were instituted at this time against those who had supported or favoured the Pretender's title, and warmly advised the king to more moderate measures. When he left Hanover, on the death of queen Anne, the king, whose disposition was by no means implacable or severe, had determined indeed to restore the whigs to power, but resolved not to proceed harshly against any party who acknowledged and quietly submitted to his government. In consequence, however, of the joint importunity of some of the allies, and a portion of the whigs, who assured him that severity was absolutely necessary for his own safety, he was at length persuaded to adopt a different course. It is related by Lord Bolingbroke, that 'when Lord Townshend came triumphantly to acquaint Lord Somers with all the measures of proscription and of persecution which the ministers intended, and to which the king had at last consented, the old peer asked him "what he meant," and shed tears on the foresight of measures like to those of the Roman triumvirate*.'

The Earl of Oxford had been removed from his office of lord treasurer a few days before the death of queen Anne; and in the first parliament of her successor, he was impeached, with Lord Bolingbroke, at the bar of the house of lords, of high treason. Though become extremely feeble, Lord Somers appeared in the house of lords on every occasion when a step was taken in the proceedings against Lords Oxford and Bolingbroke, and upon the delivery of Lord Oxford's answers to the articles of impeachment in September, 1715, he was appointed a member of a committee to search for precedents as to the manner of proceeding. In the ensuing session, he again appeared in the house of lords on occasion of the impeachment of

the Earl of Derwentwater, and the other misguided persons who had taken up arms in Scotland in favour of the pretender's title. Lord Somers appears to have taken a peculiar interest in the fate of these unfortunate noblemen; and the last occasion of his appearance in public life was on the 27th of January, 1716, when the preliminaries and forms for passing judgment on Lord Derwentwater were reported to the house of lords, and finally arranged. When the sentence was actually passed, he was absent from the house*.

Of the manner in which the few remaining months of Lord Somers's life were spent after his final disappearance from public business, very imperfect and unsatisfactory accounts have descended to us. There is no doubt, however, that the concluding period of his existence was darkened by severe illness and a considerable degree of mental alienation. Repeated attacks of paralysis had destroyed his bodily health, and had so impaired the faculties of his mind that he became wholly incapable of business. At intervals, however, when the pressure of disease was partially suspended, he appears to have recurred with strong interest to passing events which involved those principles of rational liberty to the support of which his life had been devoted. At the present moment, when the question of repealing the Septennial Bill is the subject of controversy, it is interesting, and may be useful, to record the dying opinion of this distinguished statesman, the oracle of the revolution, and the constant friend of popular freedom, upon the merits of that celebrated measure. The decisive division upon the Septennial Bill took place on the 16th of April; 1716, and after that event had happened, Dr. Freind, the celebrated physician, called on Lord Townshend, and informed him that Lord Somers was at that moment restored to the full possession of his faculties by a fit of the gout, which suspended the effect of his paralytic complaint. Townshend immediately waited on Lord Somers, who, as soon as he came into the room, embraced him, and said, 'I have just heard of the work in which you are engaged, and congratulate you upon it; I never approved the Triennial Bill, and always considered it in effect the reverse of what it was intended.

* *European Magazine*, vol. xix. p. 427.

* *Lords' Journals*, January, 1715-16.

You have my hearty approbation in this business, and I think it will be the greatest support possible to the liberty of the country*.' Within a day or two after this conversation with Lord Townshend, a fresh paralytic seizure reduced him to a state of total imbecility, from which, on the 26th of April, 1716, he was happily released by death. He was buried at Mims, in Hertfordshire, at which place a monument with a short inscription was erected by his sister, Lady Jekyll.

Lord Somers was never married. It is said that while he held the office of solicitor-general, he paid his addresses to a daughter of Sir John Bawdon, an alderman of London, and that the negotiation went so far as the arrangements for the settlements, but was broken off in consequence of the exorbitant demands of the friends of the young lady. Upon his death, his property descended to his two sisters, one of whom was married to Sir Joseph Jekyll, the master of the rolls, and the other to Charles Cocks, Esq., of Worcester, from whom the present Lord Somers is descended.

The scarcity of information respecting the personal history of Lord Somers renders it impossible at the present day to do full justice to his biography. It is believed that few original letters or papers, illustrative of the private and domestic habits of this eminent statesman, are now in existence. Several letters from him to Mr. Locke, in the years 1689 and 1690, have been published by the late Lord King in his *Life of that great man*; but they have no peculiar interest beyond the evidence they contain that, at the period to which they refer, Lord Somers and Mr. Locke were on terms of friendly and familiar intercourse. After the death of Lord Somers, his manuscripts, which filled upwards of sixty volumes in quarto, came into the possession of Lord Chancellor Hardwicke, who had married his niece. This valuable collection had been deposited in the chambers of the Honourable Charles Yorke, in Lincoln's-inn, and were there destroyed by an accidental fire in 1752. Amongst the numerous historical papers swept away by this fatal accident, were doubtless many documents relating to Lord Somers of a private nature, and of deep interest; and though some specimens of the collection, which are sufficiently

valuable to enhance our regret at the loss of the rest, have been published by Lord Hardwicke, they do not relate to his personal history and character. Several years ago, great expectations were raised by the announcement of an *Essay on the Life and Character of Lord Somers*, by Mr. Cooksey, a gentleman who was allied by marriage to the Somers family, and who, it was supposed, might be in possession of original information on the subject. But these reasonable expectations were entirely disappointed. Amongst many inaccuracies and false traditions and speculations, Mr. Cooksey's work contained not a single true statement respecting Lord Somers which was not known and published long before. On the other hand, Mr. Cooksey, professing to 'wipe away the only blemish and imperfection charged upon his ancestor,' (by which he means the contemptible sneers of Swift respecting the meanness of his origin,) with a singular inconsistency, drags before the public an imputation of licentiousness, which, if true, might well have been buried in oblivion, but which is decidedly untrue to anything like the extent represented in the 'Essay.'

It is much to be lamented, too, that the accounts of this great man by contemporaneous writers, partake, in general, too much of the zeal of party to be of any value as delineations of his character. In this respect the indiscriminating praise of Addison is fully as objectionable as the almost gross scurrility of Swift. The following account, taken from a letter written by an unknown contemporary*, is just and temperate. 'His application and capacity were equally great and uncommon. At his first going to school, he never gave himself any of the diversions of children of his age, for at noon the book was never out of his hand. To the last years of his life a few hours of sleep sufficed; at waking a reader attended, and entertained him with the most valuable authors. Such management raised him to the highest eminency in his own profession, and gave him a superiority in all kind of useful knowledge and learning. Natural strength and clearness of understanding, thus improved, was the distinguishing peculiarity which appeared in all his performances. Everything was easy

* Coxe's *Life of Sir Robert Walpole*, vol. i. p. 76.

* Seward's *Anecdotes*, vol. ii. p. 114. Additional MSS. in the British Museum, No. 4223.

and correct, pure and proper. He was unwearied in the application of all his ability for the service of his country. As a writer, he greatly assisted the cause of liberty in its utmost peril. As an advocate, a judge, a senator, and a minister, the highest praises and the most grateful remembrance are due to his merits.

'He was invariable and uniform in the pursuit of right paths. As he well understood, he was equally firm in adhering to the interest of his country while in its service, and when in a private station. To this uniformity the calumnies and reproaches of his enemies may be truly ascribed. They envied him his superiority, and as their wishes and designs were far from being engaged for the real welfare of society, a man so upright and able naturally became the object of their hatred.'

Such is the representation of Lord Somers by one who lived in his time, and who seems to have derived the principal part of his information from the son of Sir Francis Winnington, his early and intimate friend. In judging of his intellectual character at the present day by his various published writings and his forensic and parliamentary speeches, the reader cannot fail to be impressed with the singular clearness of perception which formed the distinguishing feature of his understanding. This quality of mind is seen in the closeness and accuracy of his own reasoning, and the instant readiness, resembling intuition, with which he detected the sophistry or false argument of his opponents. His mind appeared to discern at a single glance all the elements of a proposition, however complicated, and to perceive with equal distinctness and rapidity all the bearings of the arguments by which it might be maintained. The clearness of his perception rendered his expression proportionately lucid, his language being always apposite and intelligible, and the arrangement of his materials singularly perspicuous. In the happy art of selecting the essential points in an intricate subject, and levelling them to the comprehension of ordinary minds, he has never, perhaps, been excelled by any writer or speaker in any age. As a public speaker, he had the rare advantage of a calm and steady temper. 'He had,' says Burnet, 'an extraordinary temper; he was fair and gentle, perhaps to a fault.' In consequence of this en-

viable disposition he never, even in the warmth of debate, lost the control of his powerful faculties, and the operations of his intellect were always carried on without the interruption of passion.

His judicial reputation was entirely unspotted. During the seven years that he held the seals not a single imputation of corruption or partiality was ever hazarded against him. When the party who promoted his impeachment in 1701 ransacked every transaction of his court to find a plausible ground of accusation, they could discover absolutely nothing, and were compelled to found their prosecution upon charges independent of his office of chancellor, and so utterly incredible and absurd that the house of commons could not venture to appear in their support. In his judicial character, too, the placidness of his temper gave him great advantages. Burnet says, that 'he had all the patience and softness, as well as the justice and equity becoming a great judge*.' Evelyn, in his Diary, though he admits that Lord Somers was 'a most excellent lawyer, very learned in all polite literature, a superior pen, and master of a handsome style and easy conversation,' insinuates that, while he was lord chancellor, he 'made too much haste to be as rich as his predecessor.' There is no evidence in support of this slander, nor is it alluded to by any other writer; on the contrary, Swift, writing at a time when he was not likely to omit any plausible imputation on Lord Somers's character, expressly says† that 'avarice he had none.'

Of the political character of Lord Somers, it has been usual for writers of his own party to speak in terms of unmeasured panegyric. A careful perusal of the parliamentary history of the reign of Queen Anne would probably suggest some qualification of our praise. But perfect patriotism, pure and undefiled by all admixture with self-interest and faction, was not the virtue of the times he lived in. Of all views of personal aggrandizement or private interest, Lord Somers was unanimously acquitted; but in order to attain the grand objects of his ambition, which were intimately connected with the general good

* The earlier editions of Garth's *Dispensary* contain this couplet—

'Somers doth sick'ning Equity restore,
And helpless orphans now need weep no more.'

† History of the Four Last Years of the Reign of Queen Anne.

of the nation, it was necessary that he should maintain his ascendancy over individuals whose intentions were far less disinterested than his own; and if the means by which he moved the engine of party were not always the most direct and unexceptionable, the severity of our censure may, perhaps, be mitigated by the reflection, that the object to which it was applied was the successful accomplishment of such measures as the security of a free constitution and the harmonious union of two kingdoms. 'The conduct of a minister,' says Lord Bolingbroke*, 'who proposes to himself a great and noble object, and who pursues it steadily, may seem for awhile a riddle to the world, especially in a government like ours, where numbers of men, different in their characters and different in their interests, are at all times to be managed; where public

affairs are to be exposed to more accidents and greater hazards than in other countries, and where, by consequence, he who is at the head of business will find himself often distracted by measures which have no relation to his purpose, and obliged to bend himself to things which are in some degree contrary to his main design. The ocean that environs us is an emblem of our government, and the pilot and the minister are in similar circumstances. It seldom happens that either of them can steer a direct course, and they both arrive at their port by means which frequently seem to carry them from it. But as the work advances, the conduct of him who leads it on with real abilities clears up, the appearing inconsistencies are reconciled, and when it is once consummated, the whole shows itself so uniform, so plain, and so natural, that every dabbler in politics will be apt to think he could have done the same.'

* Letter to Sir William Windham.

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